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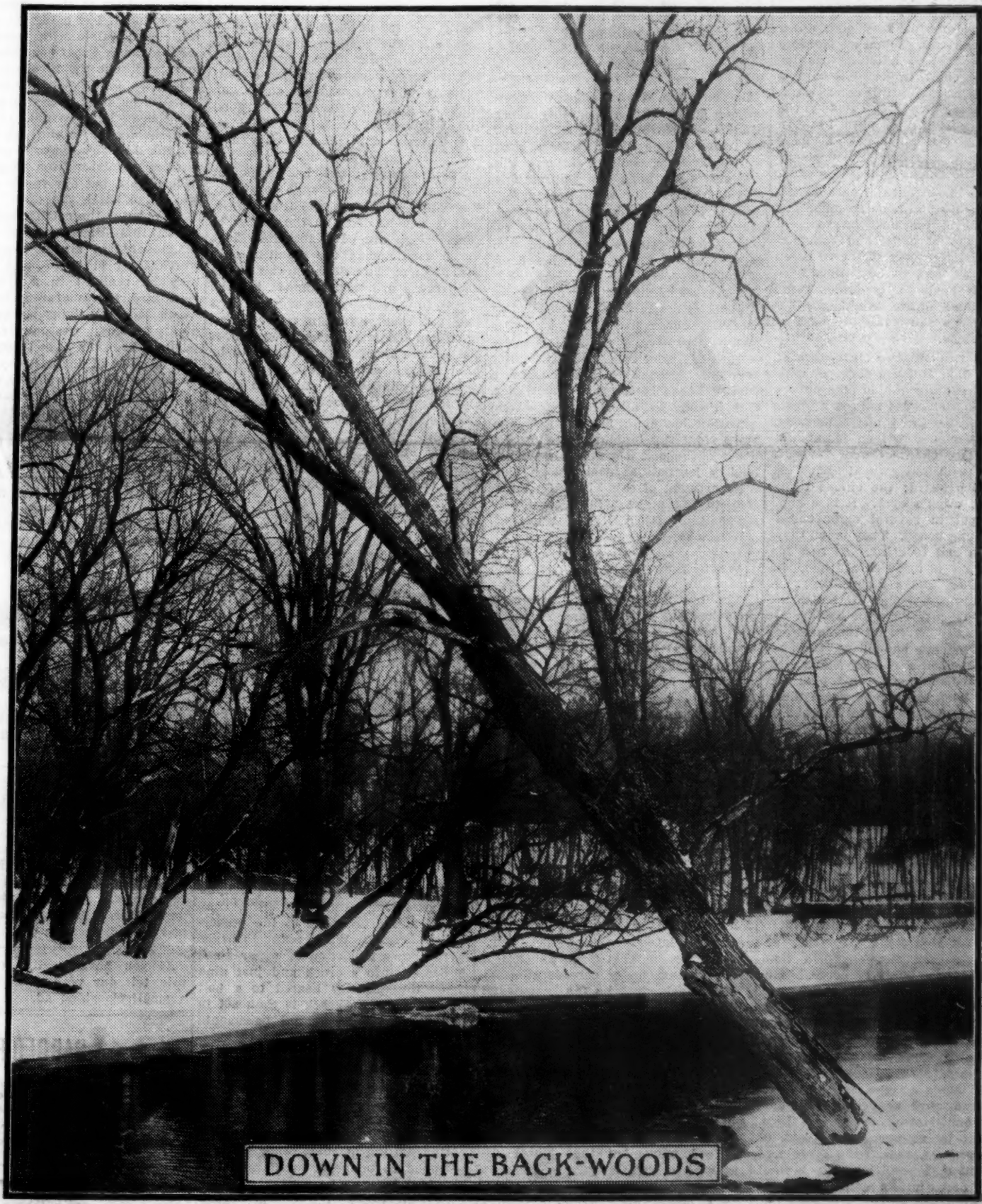
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OLDEST AGRICULTURAL AND LIVE STOCK JOURNAL IN THE MISSISSIPPI VALLEY

Sixty-Seventh Year.

ST. LOUIS, MO., JANUARY 22, 1914.

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DOWN IN THE BACK-WOODS

IN THE POULTRY YARD

GLEN RAVEN EGG FARM NOTES.

Editor RURAL WORLD: The two incubators that were due to hatch Jan. 3d and 8th brought out their chicks on time. Machine No. 1 hatched 65 chicks from 85 fertile eggs, all Brown Leghorns. Machine No. 2 hatched on Jan. 8, 78 chicks from 90 fertile eggs. This was the mixed lot, Brown Leghorns and Barred Plymouth Rocks. So the mixed lot gave even a better per cent than all of one kind. Machine No. 3 is due to hatch Jan. 15th. Also has mixed eggs. Machine No. 4 is also coming along nicely and will hatch Jan. 27th. The four hatchings will give us quite a nice lot of chicks for broilers, and we may shut down for a week or two. When we start up again it will be to hatch chicks for the day-old chick trade. We have a good many inquiries for chicks now. The advantage of buying chicks is the purchaser gets all he pays for. In buying eggs one may get a good hatch and he may not. Some people can raise the chicks and others can't.

The deep snow that fell here Christmas, and stayed with us so long, was detrimental to the best interests of all producers of eggs, and considerably against the ones trying to hatch them, as we had to buy some eggs in order to keep our machines going on time, and where breeding fowls waded through snow the per cent of fertility is low.

We can test out the clear eggs on the sixth day, and use them in making cornbread for the broiler chicks. Corn bread and sweet milk is a pretty good ration for the young chicks, but it is a good plan to feed them on a litter of hay chaff. Clover is best; millet is good, but wheat has too much sharp beard; the chicks throw it in each other's eyes. It is a good plan to put in several older chicks with a young brood. They teach them to scratch and to drink. At roosting time we put 40 to 50 chicks in a box 18x18 inches, and 8 inches deep. A frame made of lath just fits inside the box, and is covered with burlap. It rests on nails driven on the inside of the box, just low enough for the burlap to touch the chicks' backs. A cotton lined quilt goes on top of the frame to keep the chicks warm these cool nights. We roost ours in a bed of leaves in the brood house. We almost cover the boxes with leaves, and they keep perfectly warm without other heat than their own selves.

Farmington, Mo. E. W. GEER.

GIVE POULTRY BETTER CARE.

Editor RURAL WORLD: Biddies are the most profitable friends that the American farmer has on his farm to-day, when you compare their cost of keeping with that of money invested in other live stock. Yet they receive less care and comforts than any in his animal kingdom. His horses, hogs, sheep and cattle are provided with large green meadow fields to graze in, never ceasing brooklets, pond or wells furnishing them water when thirsty; beautiful shade trees to shield them from the hot sun; acres of corn, hay, oats and other feed stuff are cultivated, harvested and stowed away for them. Last, but by no means the least, of their comforts, they have large and well built barns and sheds to protect them from winter's cold and chilly rains, wind and snow. But poor biddies! they share none of these special provisions. They are compelled to make daily visits to the back door of the kitchen, and contend with the



dogs and cats for the few scanty crumbs that are cast out from the table. The remainder of their food is secured in the woods and fields, such as worms and insects, and after a day of running from place to place trying to gather food enough to sustain life until another day, they must then perch upon the limb of an old tree, roof of a building or a fence to spend the uncomfortable night, with their head tucked back beneath their wing.

So you see a great number of farmers fail to discharge their duty along the line of providing for their poultry. Yet when eggs are selling for a good price that same class of farmers will cry out, "My hens are unprofitable and do not pay for their keeping."

But I think they do, for their keeping costs them nothing, and they receive nothing in return. Well, who is at fault, the farmer or his flock of hens?

You must admit that our other farm animals give us best service when properly cared for. The same is true with poultry. A good warm house is very essential in successful poultry keeping. A suitable location for a poultry house is of great importance. If you can, by all means select an elevation having a natural drainage, away from the buildings, and as for plans of houses, consult our leading poultry journals, as most of them have a department of this kind. So let us line up and make 1914 a great year for poultry. RICHARD E. WINGO, Kentucky.

WRONG FEEDING OF CHICKS.

The old method of raising chicks on ashes has much to answer for in the causation of diarrhoea. The farmer's way is to mix up equal parts of bran and meal with water or sour milk and feed to hens and chicks alike.

Too many real poultrymen follow the same method. It works well in some cases but is always open to abuse and is not to be recommended. The danger of the wet mash is from fermentation. In warm weather this begins soon after mixing, and, if not fed at once, may be far advanced before the birds have any chance to get it into their crops.

Even if it is in fairly good condition when swallowed, there is danger of spoiling after it gets into the crop. Fermentation irritates the crop, gizzard and intestines, and the prominent symptom that first appears is the diarrhoea under consideration.

If a mash must be fed to summer chicks, let it be mixed with cold water, so that fermentation may be delayed as long as possible. The best way—nature's way—is giving all food dry. Then the chicks cannot "bolt" the feed. Mix it with its own moisture that helps digestion, and the food when swallowed is free from fermentation. It is one of the results of the dry-food movement that bowel diseases have become rare in such fed flocks.

Too large a proportion of bran in the mash will irritate the digestive system and produce a looseness of bowels.

Grit is necessary to the work of di-

gestion in the chick. If not allowed access to grit, the gizzard cannot do its work, digestion suffers, and the softened grain passes into the bowels improperly prepared for absorption. Without grit the gizzard often becomes impacted, the crop fills to its limit and the chick dies with a looseness of the bowels. Overfeeding or overcrowding with whole grain, especially with cracked corn, leads to a condition of digestion that is often accompanied by diarrhoea.

KEEPING EGGS.

Eggs can be kept in water glass for family use for at least eight or nine months, as the writer can certify and at the end of that time be very difficult to detect as not being a perfectly fresh article. And yet some who employ that method do not have "good luck." There is no "luck" about it. It is a question of the necessary care. For some years past the writer has lived in the city, but has sufficient room to keep fowls enough to supply the family with eggs and table fowls. And it is done. And in the spring the surplus eggs are put into water glass to be used during the moulting season. Some of the neighbors who do not keep fowls are accustomed in the spring to purchase cases of fresh eggs and put them away in water glass, but from confidences exchanged over the garden fences results seem to be not always satisfactory. Eggs put down at this season and used from the following October to January cannot be distinguished by our family from newly-laid eggs, but as the household is never entirely without fresh eggs they have never been tried for some uses. For example, it is not believed that they could be boiled to advantage, as with the most careful handling it is thought that the shell would crack and let out the contents, but it is believed that they would poach nicely, although neither has been tried. The family is sure that they would make good icing. These opinions show the general reputation which the eggs have. There is never any thought when using more than one egg of breaking them into a cup separately lest some disreputable egg dropped into the common dish should make havoc with its predecessors. The eggs are handled in all respects like fresh eggs with only due consideration for the tenderness of the shell, which comes with so much maturity. They do not in any respect resemble the so-called "storage eggs." But the following are the precautions taken. In the first place, all the eggs are infertile. No rooster on the premises fails to go to the pot upon his first feeble attempts to crow. That is considered essential to the preservation of eggs. When ready to begin laying down a portion of water glass is poured into a crock and just nine times the quantity heated to a boil and added. The crock is then set in a cool basement—and all basements are always cool in San Francisco—and is ready to receive the eggs. The eggs are carried daily as gathered direct to their receptacle. If by any chance they are not put in until the next day they are left in the gathering dish and reverently covered with cotton batting or some other material assumed to be germ proof and light proof. That may be a work of supererogation, but no chances are taken. As the crock fills up more water glass is added, as it is necessary to keep always at least two inches of the liquid over the highest egg. And

the eggs are not touched or the crock moved until the last egg has been used. If the result is better than that achieved by the neighbors, the failure or partial failure is attributed to the probability that many of the purchased eggs were probably fertile and to their frequent handling and exposure for several days.

WORK OF THE INCUBATOR.

Darwin did not work harder in evolving his famous "Origin of Species," Huxley did not expend more brain work to ascertain "Man's Place in Nature," Haeckle did not put forth more ingenuity in producing his wonderful "Riddle of the Universe" than was shown by the geniuses who invented and perfected the modern poultry incubator. That wonderful machine is not simply the agent for the great increase in the poultry business proper, but it has made the raising of ostriches possible with profit. It has been made a great success of late years; without the incubator, it would have been impossible, for the reason that the habit of this strange fowl is to sit upon its eggs only at night and turn them over to the sun's rays during the day. This works all right in the hot countries from which the ostrich comes, but our sun is not warm enough to hatch the eggs. By using the incubator the ostrich farmer overcomes this difficulty, and when we remember that single feathers are worth from \$1 to \$7, and that \$100 may be realized in a season from each bird, the matured bird being worth \$500 and living, on an average, eighty years, we may readily see what a boon has been conferred on this branch of industry by the marvelous machine we are discussing. But this is not all. Incubators are also successfully used in the care of babies prematurely born, and many a little life has been preserved by their agency.

MAKING A HEN'S NEST.

Just because you happen to know how to build a hen's nest do not conclude that every beginner does, for there is an art about everything that is done right.

We need to pay more attention to the small things in the poultry business. It is the small items that go to make the large ones.

Have a box 18 inches long, 14 inches high and 12 inches deep. On the front side leave a strip 5 inches wide at the bottom, removing the remaining 9 inches of the front to give the hens access to the nest. Be sure to leave the top board on. For nest material, fine straw is the best in cold weather, but when the weather is hot use a piece of sod with heavy fine grass. Turn the sod over and scrape out some of the earth in the center, so that when it is placed in the box grass side up the middle will settle down, leaving a nicely shaped nest. For a setting hen this is one of the best nests to use.

If you have poultry or eggs for sale tell our readers about them in a small classified ad.



BARRED P. ROCKS

300 fine ones; \$1.00 each for cockerels or pullets. Also M. B. Turkeys.

MRS. H. C. TAYLOR, Roscoe, Mo.

GLEN RAVEN POULTRY FARM. Home of the great layers and choice fruits. Eggs for hatching at all times. Brown Leghorn and Barred P. Rock fowls, both young and old, for sale. Baby chicks in spring time. Place order now. Circular free. Write E. W. GEER, Farmington, Mo.

CREAM of the DAIRY NEWS

DAIRYING PROFITABLE.

The first hundred pounds of hog costs less than any succeeding hundred that we put on him. Nine parts of skim milk to one part of corn will put such a value in the skim milk that this, taken in conjunction with the butter fat, gives a greater return than is possible from the sale of whole milk, while the estimated value of excreta from every 1,000 pounds of hog is \$30 in available plant food. Therefore, it appears that in the sale of the finished article of butter in the growing of calves and hogs as dairy by-products, we have reached the apex of the very most progressive and modern way of coining money on farms with a minimum loss of soil fertility.

I challenge any man of the farm to show where we as farmers can realize so much in actual profits along any line as along the way of the old cow, that so calmly makes her contented way beside the still waters or browses happily in the green pastures or ruminates beneath the shade of the foliage.—Illinois Farmer.

ADVANTAGES OF CLIPPING COW'S UDDER QUESTIONED.

Does clipping the long hair from the udder and flanks of the dairy cow reduce the amount of dirt that falls into the milking pail? The question is an important one for every dairyman who is producing market milk to consider, as it is well known that the number of putrefying and disease germs is increased with the increasing amount of dirt, hairs and manure that drop into the milk. Whatever keeps the dirt out keeps the bacteria out, so that the milk is cleaner, more wholesome and keeps its natural state longer.

"It was quite recently thought that clipping the hairs from that part of the cow's body that is directly above the milking pail was a great aid to cleanliness, and almost a necessity in the production of sanitary milk," said Professor Graves, head of the Oregon Agricultural College Dairy Department. "But the still more recent experiment conducted by the New York Experiment Station, indicates that it has very little effect on the bacterial content, tending to increase rather than diminish the number. The tests were made by taking samples of milk before and after clipping under conditions as nearly the same as possible with the single exception of clipping. While the difference in the bacterial content of the two samples was not enough to base final conclusions on, it was sufficient to indicate that if proper sanitary methods are observed in handling the cows and the milk, clipping is not essential to the production of the highest grade of milk.

"There were two experiments in clipping conducted at the New York Station, one about two years ago, and one quite recently. The results were the same in both cases—a slight increase in the bacterial content after clipping.

"There is no doubt that a great deal of germ-bearing material is removed by clipping off the long hair, especially when the cow is not properly kept and well cleaned before milking; but on the other hand, the germs that are not removed fall more readily in the process of milking after the protective covering has been removed. Small particles of cuticle are jarred loose in milking, and drop into the



pail more freely after the hair has been taken off.

"It is possible that we may learn that clipping is an advantage only when careless and unsanitary methods of dairying are practiced, and either useless or positively harmful when proper cleanliness is observed. In the meantime, whether clipped or unclipped, the cow should be kept generally clean, and thoroughly cleaned before milking."

FEED GRAIN TO THE DAIRY COW.

Some dairymen have the wrong opinion as to the value to be derived from feeding grain to the cows. Many expect to see at once a decided increase in the test of their milk some a marked increase in the quantity of the milk, and when neither result occurs they decide that there is no profit to be had from feeding grain. Many cows fed on coarse fodder alone when they come in do finely, but my experience is that the cows fed grain hold their flow of milk better during the entire season than those that do not have grain.

Feeding grain to heifers has a tendency to develop them so that they do much better the following season than they would if not fed the grain. It does not claim that it pays to feed grain to all cows, or in other words, all cows will not pay for the grain given them, because of their small productive capacity.

It has certainly paid to feed this past summer, for with the pasture almost bare from dry weather the cows would have gone almost entirely dry if they had not been grained.

NUMBER OF MILKINGS.

Carefully conducted experimental work in Denmark supplies a contribution to the vexed question of the advisability of milking two or three times a day. In these experiments several groups of 20 newly-calved cows were divided into two divisions of 10 each. The cows were so divided that, to each division was given practically the same amount of milk and of butterfat.

One group was milked twice a day, the other three times a day, and then the order was changed, so that those previously milked twice were milked three times, and vice versa. When two milkings were practiced, the interval between milkings was 12 hours, and where the cows were milked three times daily, the interval was 8 hours.

The outcome of this work was that cows which yielded 28 to 30 pounds of milk a day, milking three times, produced an extra yield of 13% compared with the animals milked twice. Nevertheless from these experiments of brief duration no correct judgment may be formed as to the influence which more frequent milking exerts on the development of the milk productivity of the cow.

One is inclined to assume such an influence, particularly if three milkings are practiced on young cows. Though the extra yield was not so large as is usually counted on in practice, the report of the experi-

ments ascribes this to the fact that in practice, when changing over to three milkings a day, the food ration is at the same time increased as a rule, and therefore a portion of the extra yield must be put down to this increased food supply.

BUILDING A CREAMERY.

Cost May Range From \$3,000 to \$10,000.

The cost of building and equipment will vary with the kind of material used, the size of the building, and the distance the building materials must be transported. Prices of building materials also vary, which makes it very hard to give accurate figures as to cost hence only general data can be given in this line.

A small creamery building constructed of brick or cement, with cement floors, will cost from \$3,000 to \$4,000, a medium sized building \$5,000 to \$6,000, and a large one from \$7,000 to \$10,000. These prices secure good substantial buildings, constructed so that they are sanitary and practically frost proof, and that is the cheapest building to put up where dairying has come to stay. There are no doubt places, where lumber is cheap and dairying in its infancy, where it may be advisable to build a frame building, and in such places a building can possibly be put up for about half what it costs to build a more substantial one.—James Sorenson, Manager Albert Lea State Creamery, St. Paul, Minn.

FEEDING EXPERIMENTS WITH LIVE STOCK.

Tests in feeding Shorthorn and Angus steers various proportions of bran, gluten meal, oil cake, clover hay, corn silage, turnips, mangels, oat straw, and roots are reported at the Canada Experiment Farms. Four lots of 15 steers made an average daily gain, for 350 days, ranging from 1.12 to 1.82 pounds, at costs ranging from 7.1 to 14.6 cents per pound.

In a test to determine the feeding value of straw as a roughage, a carload of two and three-year-old steers were fed 155 days. The average profit per head realized, after paying for all feed, was \$15.56.

As a result of experiments in steer feeding it is calculated that "an increase in selling price over buying price of from one to one and one-fourth cents per pound is required to cover a four to six months' feeding period."

In a comparison of feeding steers outside with feeding in stable, 21 3-year-old steers, chiefly Shorthorn and Hereford grades, were winter fed 5½ months. Lot 1, fed outside and amply supplied with hay and straw, together with a grain ration, made an average daily gain per head of 1.28 pounds, costing 9.6 per pound. Lot 2, fed in the stable and receiving straw, corn silage, and roots in addition to the regular grain ration, made a corresponding gain of 1.34 pounds, costing 8.9 cents per pound. Lot 3, also fed in the stable and similarly to lot 2 except that three pounds of the grain ration was replaced by three pounds of alfalfa hay a part of the period, made a corresponding gain of 1.29 pounds at a cost of 8.4 cents. Although slightly greater gains accrued from stalling and grain feeding, the results show the profits possible from a better use of straw and coarse grains for fattening steers, indicate

that stalling is not essential, and give proof of the great feeding value of alfalfa.

In experiments in fattening lambs the value of roots and corn silage as a succulent feed was determined. Three lots of ten each were fed 114 days. The average daily gains per head were for the lot receiving turnips 0.28 pound, the lot receiving silage 0.27 pound, and the lot receiving turnips and silage 1:1, 0.3 pound. The representative costs per pound of gain were 8.04, 7.66 and 7.55 cents.

Results indicate "corn silage to be of high value for fattening lambs, the average net profit per lamb covering three years' experiments being \$1.28 for the lots getting silage, and \$1.34 for the lots on a mixture of turnips and silage."

HOW TO KEEP MILK FRESH.

To aid persons who find ice difficult to obtain to keep their household milk in better condition than if it is allowed to stand around in heated rooms, the dairy experts of the Department of Agriculture at Washington have issued the following:

If it is impossible to procure ice, the milk bottle can be kept cooler than the surrounding air by keeping it in a jar or pail of running water. Where it is impossible to use running water from a faucet, wrap the bottle in a damp cloth and put it in a current of air. This method will keep the milk a few degrees cooler than if left simply in the air. The use of ice, however, is always preferable.

If there is no refrigerator in the house, an inexpensive ice box for keeping milk cool in summer can easily be made by putting about two inches of sawdust or excelsior in the bottom of a small wooden box about 18 inches long, 12 inches wide and 12 inches deep. Into this set a covered jar or tin bucket about 8 inches in diameter and tall enough to hold a small milk bottle. A stone jar is better than a tin pail, as it will not rust nor grow leaky. Pack sawdust around the outside of the pail or jar, place the milk bottle in the pail, and place cracked ice around the bottle. Put cover on the pail or jar. Lay several thicknesses of newspaper on top of the pail and close the lid of the wooden case.

MILK OF THE EWE.

An analysis of ewe milk shows it to be very high in fat content. The different breeds show some variation in this regard, and there is a considerable variation in the fatty content of the milk of a single ewe at various times. All ewes give richer milk immediately after the lamb is born than they do later on.

The percentage of fat some times runs as high as eleven per cent at this time. Nature made this arrangement, no doubt because the lamb needs a laxative at first to set its digestive apparatus in motion and free it of faeces that have been collecting during its pre-natal growth.

The calf should be allowed to suck its dam for one to four days, depending on conditions—one day if calf is strong and cow's udder not swollen, longer if calf is weak or if the udder be hard or swollen. This gives the calf a good start in Nature's way of feeding.



COOK YOUR FEED and SAVE
Half the Cost—with the
PROFIT FARM BOILER
With Dumping Chaldron, Replaces its kettle in one minute. The simplest and best arrangement for cooking food for stock. Also makes Dairy and Laundry Stoves, Water and Steam Jacket Kettles, Hot Soaklers, Chaldrons, etc. Send for particulars and ask for circulars. O. D. H. Sperry & Co., Batavia, Ill.

and show their sheep at the state and county fairs.

Mr. John Rankin, of Tarkio, Mo., superintendent of the sheep at the Missouri State Fair, made a special plea for Missouri farmers to come to Sedalia with their flocks, stating that many of the premiums had been taken out of the state simply because the Missouri men would not come out after them. He stated that there were a number of good sheep in Missouri that would compete successfully with those of other states if the men would simply wake up and put their flocks in show shape. He spoke of the good sales that are made at the Missouri Fair and of the opportunities the State Fair offers to sell the surplus sheep of the flock.

The Missouri Cattle, Swine and Sheep Breeders' Association made Wednesday a sheep feeding day.

Mr. J. H. Starr, of Centralia, Mo., who has probably had more experience in feeding sheep than any Missouri feeder, told of many interesting points that they had learned while growing up in the sheep business. One of the most interesting points he made in the feeding talk was of the good success he had had in feeding silage this last year, stating that he had bought silage at \$5 a ton and considered it well worth the money.

Mr. A. K. Miller of the National Stock Yards, East St. Louis, told the Missouri sheep breeders and feeders how they could get their lambs in better shape for marketing, and gave them many valuable pointers in preparing sheep for market and in buying and selling their lambs.

An election of officers took place after the program. Mr. E. B. Wilson, Stanberry, Mo., was re-elected president; Mr. Lyle Atkins, Denton, Mo., was re-elected vice-president of the Southwest District; Mr. J. L. Grigsby, Greenville, was elected vice-president of the Central District, and Mr. W. D. Ashburn, Farmington, vice-president of the Southeast District; Mr. H. Hackedorn, Columbia, Mo., secretary-treasurer.

At the business meeting plans were started for the Missouri Sheep Show at the Pan-American Exposition in 1915, and a committee appointed to look after the special premiums for Missouri Breeders. Much interest has been manifested by Missouri breeders in this show of the West.

A resolution was also passed to the effect that the Missouri Sheep Breeders' and Feeders' Association should hold a banquet during the State Fair, and it is hoped that all sheep men of Missouri and all the exhibitors of that fair who are interested will be present at this banquet on Thursday night of the State Fair week.

THE MATHEMATICAL PORKER.

The educated pig of the old-time sideshow, which gravely read figures on a blackboard, was only a type of a class. His modern prototype is quite his equal in devotion to the exact science. By both instinct and fate he is a mathematical animal. Subjectively and objectively he is great on figures; they are dealt out to him and he deals in them himself. He desires his square meals to be regulated daily by the rule of three. In addition he deals generously with his owner's bank account. In subtraction he deals with his owner's indebtedness. He is able to reduce a mortgage to fractions with amazing rapidity. In measuring the available contents of a pail of slop he is a lightning calculator.

As a multiplier the pig has no equal, counting on six to the litter and two litters in the year. At this rate, barring accidents, one sow's progeny will amount to above a thousand in four years. A week-old pig

is up in geometry, finding the way home along the hypotenuse shortcut. An old sow's quickness in boxing the compass in a potato patch is amazing. And when it comes to a thoughtful of skimmed milk she is the least common divisor; she wants it all herself.

Objectively the porker finds himself stacked about with a bewildering array of figures. His gains per day on pasture, his gains per day on grain, his gains per pound of grain, his gains per day on pasture plus a daily ration, his gains on vegetables and roots—these and a hundred other tabulations surround him.

In sober truth there is no animal that so greatly needs to be treated on exact principles as does the porker. It is common for farmers to speak of their "luck" with pigs. The word is never so ill-applied as in this connection. As a matter of fact, every effect is the result of cause; there is no such thing as luck. It is a bad accident when a mother-sow lies down on one of her two-day-old offspring, but not bad luck. It is a hard experience if a little squealer becomes chilled during the first struggling hours of life, but hard luck. Unprotected postholes and badger burrows are menaces to the first steps of the piggy who would a-wooloo go and if he falls in he is simply the victim of the law of gravitation, and of his owner's carelessness. When we add two and two and find that the result is four we do not call the figuring a matter of luck. When we leave a fine fat bunch of pigs in a filthy pen, and they come out minus tails it is a mathematical certainty, however we may talk luck, that there was a shiftless swine-raiser. Sunshine is the logarithm that fits into every relation of the porker's length, breadth, thickness and good health, and sunshine is calculable in its coming, its penetration and its purging of evil presences.—W. J. Harsha in Breeders' Gazette.

One of the great sources of waste in feeding animals during the winter months is a failure to have a feed rack of some sort in which to put the feed. The feed is put on the ground and about one-third of it wasted by the animals trampling it under foot. This could be remedied by putting up suitable feed racks or mangers. Another source of waste is in feeding whole fodder. If the fodder could be shredded and fed in that form it would save about one-half of the fodder that is usually wasted when fed whole. The animals will not eat whole fodder if they think that there is a grain of corn in it, but will nose it around, tramp it under foot and waste a larger portion of it. When fed whole it is a good deal easier for them to pull it out of the rack or manger and tramp it into the ground. To save these little items of feed means the saving of good money and in the end a larger pocketbook.

Water is fully as important to the dairy cows as feed during the winter. They must have access to it so that they can drink all they want, whether they have it in automatic water basins or in the yard tanks. Cows giving milk need great quantities of water. Careful experiments have proved that it requires more than five pounds of water for every pound of milk produced by the cow.

In winter the sow should be comfortably housed, preferably in a cot well supplied with straw, and placed some distance from her feeding place, so she will get necessary exercise in running to and fro. Her feed should consist largely of bulky foods and enough grain to keep her in good condition without fattening.

GEORGE LED THE BUNCH

Last Week in Cars Hogs Sold.

Friday out of 19 cars he sold 8 at the Top--It's the tale that dollars tell that increases our business,
HESS COMMISSION CO.

Weekly Market Report

Cattle Trade Moderate and Prices Weak—Hogs Active and 5c to 10c Higher—Sheep Lower.

Receipts Monday—Cattle, 5,880 head; hogs, 15,000; sheep, 3,000; horses and mules, 3,000.

CATTLE—Steer supply was moderate and few prime beefs were offered, bulk being of medium to good grade. Market was uneven and rather slow throughout the morning. Desirable grades were in request during the early rounds. What heavy beefs were offered found a fair demand. After better kinds had moved attention was directed to the medium grades, but buyers hammered prices and the result was a lower market on these. Steers above \$8 were steady, but downward of that line there was a 10@15c decline evident. The clearance was good, as sellers turned loose after the decline. A load of 1,900-pounds topped at \$9, with a couple of bunches of medium to good weights at \$8.70@8.75. Bulk of desirable kinds of fair weight went at \$8@8.50.

Butcher trade was rather uneven, with medium grade heifers the lowest spot in the market. Heifer supply was moderate and quality rather lacking, as not many good ones were included. Market was slow throughout. Best heifers, however, sold steady. Medium kinds were unevenly lower, but it was evident that none sold better than at a loss of a dime from last week, and extremes were worse. Medium grades were slow of disposal at the decline.

Offering of cows was fairly generous and a good strong market was evident throughout. All kinds were in request, and prices reflected a steady to strong basis. Beef cows topped at \$7.50 and a tidy sprinkling met sales in a range of \$6@7.25. Canners and cutters found a good demand and sold steady. Bulls were unchanged and fairly active.

Feeders were in strong demand and especially the better grades. A bunch of feeders of fair flesh sold for \$7.50, which was the best price for the day on these kinds. There was a good sprinkling that went at \$6.75@7.50. Stockers were in fair demand, although the call for them was not quite as heavy as it was for feeders. Prices were on a strong basis, and market was active. Demand for she stuff was fair and values steady.

There was only a fair demand for the Southern steers and prices on the Oklahomas were 10@15c lower. A bunch at \$7.70 was top for the day. A bunch of Mississippi-fed steers sold for \$7.60, and several loads of Arkansas and Mississippi steers sold at \$7.10@7.40.

HOGS—The market opened with a good inquiry for the better class of hogs and with prices on a 5c higher basis, and as the day advanced prices continued to improve until later sales were being made freely that showed 10c higher than the Saturday basis, and it was on this basis that the market closed, but it must be remembered that this was for the good kinds only.

Several loads of hogs brought \$8.50, while two small lots of extra good heavy hogs sold at \$8.52½ and \$8.55,

the latter price being the top of the market, while the bulk of the hogs went at \$8.30@8.45, which places the market on as high a basis as it has been for several weeks. The good smooth hogs weighing 200 pounds and over sold largely at \$8.40 and upwards. The hogs at the top of the market were strictly prime heavies.

Packers were not inclined to jump in and pay the advance very readily, but in order to get the hogs were forced to pay higher prices. Most of the mixed and plain medium and heavy hogs sold at \$8.20@8.35, with the fair sorts at \$8@8.10 and Southern hogs at \$7.25@7.85 and rough throwouts at \$8@8.25.

SHEEP—Although there was but a moderate supply, prices were 25c lower on all offerings, and it was a dull trade the entire day. It was well on toward noon before any business worthy of mention, was transacted. The offering included a few cars of lambs from Colorado and then there was a few native fed Western yearlings offered and some Mexican ewes.

Native offerings were pretty scarce and no real good fat lambs were offered. The best of the Colorado lambs brought \$7.85, and the Western lambs, which were from Iowa, also sold at \$7.85, which price was the top of the market. Other Colorado lambs sold at \$7.80. Several loads of Western yearlings went at \$6.75 and like sheep and lambs, were 25c lower, and slow sale.

The Mexican sheep offered were nice little ewes weighing 77 pounds and sold at \$5.65, which was the highest price of the day for sheep. The good native sheep offered brought \$5.50. Stockers and choppers sold at \$3.75@4.25 and bucks at \$4.25.

HORSES AND MULES.

HORSES—The supply totaled 3,000 head. This supply may be compared with past records, as on January 30, 1911, the record run was made. That day there were 4,250 horses received.

There were plenty of buyers from the Southern States and they made large purchases at steady prices. The Eastern trade was a little on the doubtful order, as there was a smaller attendance of buyers, and they were not on the active order, but all the quality kinds of animals sold were taken at steady prices.

Heavy draft, extra.....\$210@250
Heavy draft, good to choice.. 175@200
Eastern chunks, ex. quality.. 160@200
Eastern chunks, plain..... 100@135
Southern horses, ex. quality. 125@150
Southern horses, plain..... 50@ 75
Choice drivers, with speed.. 175@275
Saddlers..... 150@250
Plugs 5@ 20

MULES—The run was one of the largest in years and little change in prices. Another helping feature was that there was more of the good quality kinds of mules received than there has been in some time, and these were the ones that found the best demand. There was a good demand for all the good quality kinds and there was no trouble in getting rid of these kinds, but common kinds were left untouched without even a bid.

16 to 16½ hands.....\$160@280
15 to 15½ hands..... 100@225
14 to 14½ hands..... 60@140
13 to 13½ hands..... 50@120
Plugs 20@ 70

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Horticulture

SOIL ROBBERING VS. SOIL BUILDING.

By William Galloway.

The average American farmer has often been accused of robbing his soil by the methods he uses to farm it. This accusation being made by soil culturists who know what good farming is, should long ago have been heeded. We have been called soil robbers for the simple reason that we have been taking from the soil more than we have returned to it. Possibly this has been true because we did not really know what to return to the land to keep up its fertility. But it is doubtful if any man really thought about his farming operations and overlooked the fact that what he was feeding to the soil was out of proportion to what he was trying to take from it.

Soil farming is common sense farming. It is taking off crops and restoring used plant food soil fertility. Taking off crops and returning chemical fertilizers is not soil farming, though at times chemicals must be restored so that the land be put quickly into shape to grow crops that will enrich itself. When a cover crop of cowpeas or soy beans or vetch is turned under for the green manure it feeds to the soil, the process is nothing but simply chemistry applied to farming. You put the green manure under the ground so the land will get the nitrogen, humus (which is rotted vegetation that makes a soil black) and other organic matter as well as the phosphorus contained in the cover crop.

Deep plowing brings to the surface plant foods that shallow rooted plants cannot reach. That is the why of a good crop following deep plowing. The roots of the growing crop feed upon nitrogen, phosphorus, potash and other plant foods that deep plowing brings up where the crop can feed upon them. Legumes are nearly all tap-rooted plants that burrow their way down into the soil and feed upon these plant foods, bringing them nearer the surface and making them available for the grain or other crops which follow. The ability of properly inoculated legumes to store nitrogen in their roots also stores in the soil this first element of all plant food, and in addition to storing nitrogen for crops that may follow them, legumes may be used for many crops, stock feeding crops and other purposes, and will not deplete the land upon which they are grown.

A part of the small roots of all legume plants die off annually and form humus, which makes the soil more porous and consequently adds to its physical condition. Commercial fertilizers must be used annually because the crops on which they are used and their constant leeching away, demands it. Fertilizers are too expensive for permanent farming in the first place, and they do not improve the soil's physical condition. Dig

into any virgin soil and you will find it full of humus and plant food. With a little working this soil will become loose and in perfect physical condition to produce most any crop. Ask any greenhouse man why he is so particular about the soil on his benches. Ask him what he does to make a good rich soil. He will tell you that humus, nitrogen and phosphorus are all essential to perfect plant growth. Soils that are porous, black and full of humus are filled with plant food, and the roots of whatever crop sown on them can feed easily through the soil. The French farmer removes the top soil of his small acreage and takes it with him when he moves into new ground. He puts in a great deal of time in getting it in the right state of fertility and he would rather move it than build up another soil.

Any soil can be improved. In fact it can be made to improve itself. Sow a thin soil to vetch, cowpeas, clover or alfalfa and they will grow in fertility while you take off a yearly crop of seed or grain, which can be used as meal for live stock feeding. Many farmers have found that sowing legumes in corn, cotton or small grain, and then turning this legume under when the seed bed is prepared for the following year's crop, adds greatly to the soil's condition and supplies large amounts of available plant food. Thousands of farms have been saved with a three-year rotation of clover, clover following a crop of corn or oats, being seeded with the oats and yielding two cuttings, then being turned under for the next year's crop.

In soils where clover inoculation is abundant, clover has been used to wonderful advantage because of its ability to take nitrogen from the air and store it in its roots. All legumes, if properly inoculated, will take nitrogen from the air and store it in the little wart-like bunches in their roots. The soil contains air, and wherever air is found it contains nitrogen, the elemental plant food. If your soil is hard and your seed bed in which you sow legumes or any other crop, is not properly pulverized, it will take longer for a legume crop to build up your soil. It is easily possible by the proper use of a few simple crops to bring back any soil into a state of fertility that is indeed an improvement on its virgin conditions. And it is the purpose of these series of articles to point out the how and why of these facts. Any questions that the readers may want to ask me I will be pleased to answer, for I want to make these articles as plain as possible and of benefit to all.

CURRANTS AND GOOSEBERRIES.

Gooseberries require a cool situation, with plenty of air and moisture, and should be partially shaded. They will not stand an exposed situation or where they get the very hot sun. Mulching, I believe, is a good practice in gooseberry growing. I am inclined to think that heavy mulching right along year after year is the proper way to grow gooseberries; it keeps the ground cool and moist, and if they are planted in partial shade, you have ideal conditions for gooseberries.

Black currants grow under similar conditions; they want a cool soil and closer pruning. You will find a tendency to have too many shoots coming up from the bottom. The general principles of pruning currants and gooseberries are about the same. The black currants bear their best fruit on wood three to five years old.

The branches start from the bottom and make growth the first year, and go on until they become what you call five-year-old, and, if you take an old branch and look closely, you can see the lines dividing each year's

SEEDS

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growth. The principle of pruning is to keep the supply of three to five-year-old branches, and when the branch gets five years old, it is done and should be cut right at the base, and you should have a four-year-old branch to take the place of the four-year-old one and so on.

You should leave enough strong young shoots each year to take the place of the bearing branches that you will cut out, a hole is left in the bush, and a branch should be left to fill that up. This is the general principle of pruning. Berries are pruned on the same principles, but they bear their best on three-year-old wood.

Industry seem to be the best. White Smith is good. You will not be bothered with mildew if you get the plants in the right position. Some of the growers are having the best success with the English gooseberry by spraying them with Mne.—Professor J. W. Crow, Ontario Agricultural College.

FOES OF TREES.

There are three kinds of enemies from which fruit trees must be protected. The first of these includes rabbits, mice and the like. A tall piece of heavy paper tied around the base of the young tree, or a piece of wire screening, will settle this matter.

The second class of enemies contains the insects, of which the scale insects are the most dangerous. The scale insect may be controlled by spraying with a lime-sulphur wash, and the chewing insects by spraying with Paris-green.

The third class of enemies consists of fungus diseases. These may be controlled by spraying with Bordeaux mixture, which is composed as follows: Four pounds of copper sulphate, four pounds of lime and 50 pounds of water.

CULTURE OF ASPARAGUS.

From Bulletin No. 151, Maryland Agricultural Experiment Station.

Origin: The Asparagus (*Asparagus officinalis*, Linn.) is native to Europe and Asia, and has been in cultivation for two thousand years.

Propagation. It is grown from seed which is sown about one and one-half inches deep in rows from one to three feet apart, in a well prepared seed bed. One ounce of seed will plant fifty feet of row and produce from 200 to 400 plants. Since the seed is slow in starting, it is well to scatter in some radish seed so that the rows will be outlined and the ground can be cultivated to keep down the weeds. An abundance of humus is necessary in the soil and good care is essential to make strong one year old plants for setting in the field. If necessary the plants must be thinned to three inches apart in the row. A rich, sandy loam makes the best seed bed.

While young, it is practically impossible to distinguish the male plants from the female ones, unless they are in bloom. The male plants are more vigorous and productive than the female plants, which produce the berries.

In saving seed, take berries from strong plants producing only a few berries. When these are scarlet-red and fully ripened cut the shoots and hang up to dry. Soak the berries in water about two days and loosen the seed from its covering by rubbing with the hands. Spread out the seed to dry and then store in paper or

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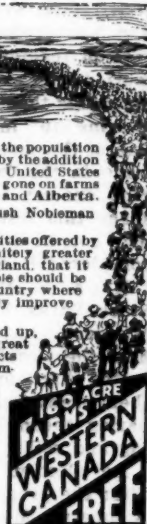
Immigration figures show that the population of Canada increased during 1913 by the addition of 400,000 new settlers from the United States and Europe. Most of these have gone on farms in Manitoba, Saskatchewan and Alberta.

Lord William Percy an English Nobleman says: "The possibilities and opportunities offered by the Canadian West are so infinitely greater than those which exist in England, that it seems absurd to think that people should be impeded from coming to the country where they can most easily and certainly improve their position."

New districts are being opened up, which will make accessible a great number of homesteads in districts especially adapted to mixed farming and grain raising. For illustrated literature and reduced railway rates apply to Superintendent of Immigration, Ottawa, Canada or to the Canadian Government Agent

Geo. A. Cook, 125 W. 9th St., Kansas City, Mo.

C. J. Broughton, 112 W. Adams St., Chicago, Ill.



cloth bags. After two years the seed does not germinate well.

Soil and Fertilizers for Field Culture—Almost any well drained soil with plenty of humus in it will grow asparagus, but good, rich, sandy loam is best. In preparing the ground for planting it should be deeply plowed and have large quantities of rotted manure worked into it. The asparagus grower must use whatever commercial fertilizer he has most faith in, because experimenters and growers do not agree as to what is best. Perhaps 1,000 to 2,000 pounds of kainit per acre in mid-season is as good as anything, however, if a complete fertilizer is preferred the following is good: 400 pounds dissolved rock, 400 pounds kainit and 200 pounds nitrate of soda in early spring.

Plants—The very best plants are strong one year olds. About the only advantage in using older plants is to wait until they bloom so as to distinguish the males from the females and select the males which are the strongest and best producers.

Planting—After being thoroughly worked up the ground should be laid off in furrows six to eight inches deep and from four to six feet apart. The best time for planting is early in the spring. The plants are set about two feet apart in the furrows and where they are placed the ground is often mounded slightly. The roots are spread over carefully and the earth is filled in two or three inches over the plants or "crowns," and as growth proceeds the ground is cultivated in until the furrows are finally filled. Thorough cultivation should be continued during the entire season and in late fall the tops should be cut off and removed from the field and be burned to destroy disease germs and insects.

In no case should small grain be allowed to grow within six feet of the newly-set tree.

The Pig Pen

WINTER HOG FEEDING.

Many farmers in my locality as well as elsewhere, frequently complain of poor success in winter hog feeding says a correspondent in the Indiana Farmer. The one and only reason for this "bad luck," as they term it, is insufficient care. The majority of these farmers say they are careful, but at the same time they could improve at least seventy-five per cent.

One of the most important points in feeding in cold weather is providing ample housing places and seeing that they are on high and dry ground. In rainy weather the bedding should be removed daily and replaced with dry material. Some may think this is a lot of extra trouble, but nevertheless your "extra trouble" is the direct means of extra profit at marketing time.

In winter all feeding material is bound to be high in price and arrangements should be made for good warm feeding and sleeping quarters. A hog that sleeps where he is chilled night in and night out will naturally require more feed to keep the warmth of the system normal and at the same time while he is consuming more grain and other food he is putting on less flesh than when he ate twenty-five per cent less feed and was properly housed.

Another factor in properly caring for hogs in winter is having a dry and sanitary feeding place. Many farmers have provided cement floors in their hog lots and sheds. This means of sanitation is one of the greatest health promoters and devices for economy that is used thus far, when actual cost of building is taken into consideration. Many who feed their swine in dirty, unsanitary, mud-floored hog lots are wasting feed daily and endangering the health of the hogs as well. The amount of grain saved alone in the course of one year would easily pay for one of those concrete floors in many cases. The feeder can take an ordinary corn shovel and clean the cobs and dirt off once daily in ten minutes time on a concrete floor and during the same ten minutes he is saving a large amount of feed and preserving the health of the hogs. Hogs fed under these conditions are healthy, thrifty and better for the owner's meat and marketing purposes by 50 per cent than being poorly housed and having unsanitary feeding troughs and pens.

PORK PRODUCTION.

An experiment at the Illinois College of Agriculture demonstrated a value of \$70 per acre for alfalfa pasture in pork production. This is not a fair criterion, as all the conditions were unusually favorable, and the experiment was on a very small scale. It has been demonstrated by repeated trials that the pork produced from an acre of rye pasture will exceed in value the crop of rye harvested and marketed, and the farmer has besides a quantity of manure well scattered about the field, and no expense of harvesting, threshing and marketing the crop.

THE YOUNG BROOD SOW.

A young sow should take a long rest after she has brought her first litter, in order that she may recuperate before she is bred again. It is well to develop the young sow slowly along this line.

The Shepherd

URGE FARMERS TO SELECT SHOW SHEEP EARLY.

Only by carefully selecting the animals to be shown and then by fitting these in such a manner as to insure the best finished form, can the flock-master hope to be successful in the exhibition of sheep at live stock fairs and expositions. These are the conclusions of George C. Humphrey and Frank Kleinheinz of the College of Agriculture who are the joint authors of an exceedingly helpful bulletin on "Fitting Yearling Wethers and Lambs for Exhibition."

Because of their individual excellence and superior fitting wethers and lambs fitted and exhibited by Mr. Kleinheinz, who is the shepherd of the university flock, have repeatedly carried away some of the most coveted awards offered at the International Live Stock exposition held each year in the Union Stock Yards, Chicago. At the last of these contests, which occurred recently, the Wisconsin flocks, although in competition with the best the colleges of the Middle West had to offer, won all but one of the premiums offered in the college classes.

The value of different grain rations for feeding sheep for exhibition purposes has been carefully studied by

the Wisconsin investigators and experiments covering periods of years have been carried on, the wethers being successfully shown each year at the International and judged both on foot and on the "block."

WATCH THE TEETH.

Any aged ewes that appear sick and run-down often need nothing more than an old, decaying tooth filed down or entirely removed from the mouth, so the animals can eat well.

THE LEG OF MUTTON.

The leg of mutton is one of the most popular cuts of the sheep carcass as it is thick and meaty. It is largely used for roasting, though it is also sought for boiling purposes and for steak. The steaks should be cut from the loin end of front of the leg. In case a leg of mutton makes too large a roast for the family, a few steaks may be cut from it. In this way a leg of mutton can be used to better advantage than if the whole leg were roasted. A leg from an old, thin animal should be boiled rather than roasted.

While the leg of mutton is one of the higher-priced cuts for which there is a rather steady demand, in economy it compares favorably with some of the cheaper cuts owing to the rela-

tively small percentage of bone in a trimmed leg.

These and many other suggestions for use in connection with butchering sheep, cutting carcasses, and the use of mutton, are stated in Extension Bulletin 45 which may be obtained free by addressing the Office of Publications, University Farm, St. Paul.—T. G. Paterson, Assistant Animal Husbandman, University Farm, St. Paul.

MILK FOR LAMBS.

A farmer can do no better in feeding the young lamb than to provide it with milk as nearly like its mother's as possible. If he has a cow that he knows tests high in butterfat, say 5.5 to 6 per cent, he should use this for the lamb.

If he adds a little sugar to this, and warms it, it will make very good feed for the lamb. If he uses milk which is less fatty, he should add cream to it so that it will bring the proportion up to 5 or 6 per cent, and sweeten and warm it before using. As the lambs grow older, ordinary cow milk may be used without the addition of cream.

Keep some of the best lambs every year, and sell off a number of the oldest ewes and those that are unprofitable. If you do not, your flock will run down.



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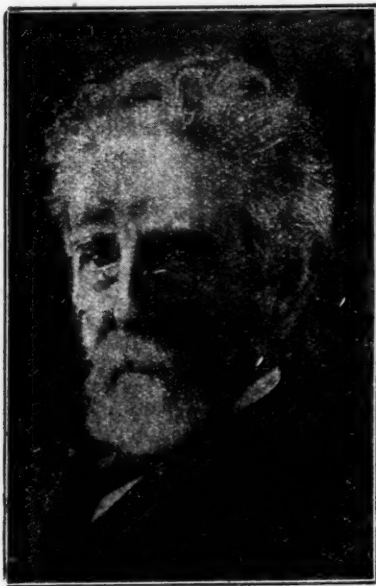


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Don't find fault with your neighbor. Try and have as much patience with his faults as with your own.

Any time after January 1 is appropriate to make good resolutions. Don't feel restricted to one day or even one month.

Naturally the farmers of Europe do not like to see their diseased potatoes excluded from our markets, but business is business.

Nobody likes a kicker in any sense of the term. Kicking an animal is only a slight modification of the same offense against any member of your family.

When people admire the individual for his moral worth instead of his financial standing we will all ascend the ladder of fame in the eyes of other nations.

The worst traits in animals can be developed as well as the best, and viciousness in animals can generally be traced to the kind of treatment

they have received and may not always reflect credit on the owner or caretaker.

Co-operation among farmers is absolutely necessary. All authorities agree that the producer and consumer are too far apart and that organization is the solution.

According to a statement issued by the United States Bureau of Education the social center idea has come to stay. A report compiled by Clarence Arthur Perry of the Russell Sage Foundation, New York, shows that the work is progressing favorably.

Negotiations between the American Sugar Refining Company and the Department of Justice have come to an abrupt halt, and unless the so-called trust agrees to meet demands for a reorganization, the pending suit to dissolve it under the Sherman anti-trust law will be pressed.

That men trained along horticultural lines are in demand is proven by the number of requests for gardeners, orchardists, landscape artists, etc., received by the horticultural department of state colleges of agriculture. These requests come from all over the country and many of them are to fill responsible positions which carry good salaries.

It cost \$7,000,000 to bottle up the water of the Colorado River for irrigation purposes, but the money appears to have been well spent. About 175,000 acres of dry waste land in the vicinity of Yuma, Ariz., will be turned from a region of fruitless barrenness into a watered area of extreme fertility capable of producing corn, cotton or whatever else may be grown under temperate tropical climatic conditions.

The development of convict road work in practically every state of the Union will be the natural outcome of the passage of the Boohar-Hughes bill, now pending before Congress. This bill which will limit interstate commerce in convict-made goods by subjecting such goods to the laws of the state into which they come will strike a fatal blow at the contract system. Under this pernicious system great quantities of prison-made goods are annually thrown on the open market, and because of the cheapness of their manufacture are sold at prices far below those at which similar goods manufactured under fair conditions can be sold. A cutting of the selling price of goods manufactured in free factories and a consequent lowering of the wage paid free workmen is the consequence.

The Department of Agriculture, the State Experiment stations and the leading agricultural authorities are educating and urging the farmer to use the highest quality of improved strains of cereal grains, acclimated seed corn, and hardy alfalfa seed. There can be no doubt that the farmer should use and take advantage of all such offerings, especially in our middle, eastern and northwestern states, where the growing season is shorter and general agricultural conditions, as a rule, demand that acclimated strains of seed be used for successful crop production. The demand for these improved strains has increased very materially during the past few years, and all seed so labeled is commanding considerable premium over ordinary commercial varieties, and justly so, if correctly labeled and the guarantees honest and genuine.

The United States navy ranks third among naval armaments of the world according to the figures given in Pulsifer's Navy Yard Book.

TO GET RID OF THE HOUSE FLY.

The fly is a nuisance beside being a carrier of infectious diseases, and the attempt to exterminate it needs no justification. How one can make one's home, town or city flyless is described by C. F. Hodge of Clark University, Worcester, Mass. He says that the American public spends \$10,000,000 a year for window and door screens in a futile attempt to exclude a lively insect which insists on getting into the house every time the doors are opened. He believes also that the method of swatting flies, using fly paper or indoor traps or poisons is ineffective, but may help. His method is to make use in various ways of the conical wire-mesh fly trap, which is familiar to almost everyone, in such a way as to turn the tables on the flies and "put them in jail and let ourselves out." This plan involves, of course, the abolition as far as possible of all breeding and feeding places for flies and the application of the fly trap mentioned above to the garbage-can, to the screens on windows, to the covers on manure-bins, etc., all of which can be done by a little mechanical ingenuity. Garbage cans are on the market which have a cover larger than the can and not fitting down closely on it so that the flies gain access to the can under the cover and escape through a hole in the cover over which is fixed a fly trap. In fighting the fly, Hodge has found that the essentials of a successful campaign are to transfer the fight against the fly from the house to outdoors, and then to exterminate it. Another essential feature in a town or city is that households must co-operate. One ignorant or careless home can breed flies enough to vitiate the best endeavors of a whole town.

THE PRESERVATION OF MILK BY DRYING.

In the attempt to furnish milk to the consumer in a form free from the objections which hygienic considerations are yearly interposing in greater degree, one of the chief stumbling blocks lies in the necessity of keeping the milk fresh between the time of milking and of delivery. The problem of the modes of preservation, involving the questions of the application of heat to the raw product, the use of chemical preservatives, or the subjection to low temperature, has given rise to some acrimonious debate and has been the occasion for not a little legislation attempting to regulate the practices concerned. All of the schemes proposed or in use are intended to destroy the growth of micro-organisms. All of the proposed modes of preserving milk in transit have serious limitations in respect either to effectiveness or to expediency and cost. In view of this it seems strange, says the Journal of the American Medical Association, that greater effort has not been devoted to perfecting some more suitable plan, in particular the obviously promising scheme of desiccating milk.

The concentration of milk by evaporation was attempted more than a century ago. The first really practical method was devised by Gail Borden. Acting on a suggestion by Horsford, he successfully evaporated milk, and in 1856 obtained a patent for his process of preparing "condensed" milk, as it was subsequently termed. The lack of legal restrictions soon permitted the use of nutritively inferior grades of milk in the production of condensed milk, so that for many years poor qualities prepared from skimmed milk were freely sold to the ignorant customer. From the point of view of the danger of milk as a source of infection, there are prob-

ably advantages in condensed milk. Delepine is said to have proved conclusively that tubercle bacilli are invariably killed by evaporation. The chief objection to condensed milk has been its misuse in infant-feeding. There is a strong belief that children fed on condensed milk are less resistant to the encroachments of disease than those brought up on fresh milk. Furthermore, condensed milk will deteriorate like fresh milk if it is diluted and is then exposed to the chance of bacterial contamination.

GERMAN UNIVERSITIES IN 1913.

The number of students matriculated in the universities in the German empire, which has doubled since 1896, has risen further during the last summer. As compared with the previous year, the increase is 7,851, and compared with the summer semester of 1903 is about 24,000. The increase during the last ten years is as great as the entire attendance at the German universities thirty years ago. The annual increase for the last year is somewhat smaller than the previous year, so that it may be assumed that the high point of the increase has been passed, which in view of the overflowing of many learned professionals may be regarded as desirable. If to the number of matriculated students, the number of those admitted to the lectures is added (3,079 men and 1,027 women) there are at present attending the German universities 64,462 persons (56,910 men and 3,436 women as compared with 56,602 men and 2,959 women in the previous year). As to the attendance of the different departments, theology showed a marked increase with 3,882 students as compared with 3,338 in the previous year, but the principal increase is seen in the department of medicine, to which university students have given the preference for some years. The medical departments have 14,750 students as compared with 13,409 in the previous year and 8,282 five years ago. The next largest increase is in economics and agriculture.

THE SHOP OCULIST.

The shop oculist is an established institution in most shops and factories. He is a workman who has had considerable experience in removing cinders, emery, etc., from the eyes of his fellow employees. He usually has a steady hand and a good eye, and has two or three instruments and a magnifying glass with which to remove the foreign body. These tools are hardly ever clean, and he himself makes no pretense at being surgically clean. He gets the patient in a strong light and picks and scrapes the delicate tissues of the eye until he dislodges the particle. As a rule the eye gets well, for a strong man can withstand much physical misfortune, but even if he gets well, the unnecessary scraping leaves a scar, usually in the center of the eye, which more or less frequently interferes with vision. The shop oculist is responsible for many eyes that are lost by improper treatment directly after a slight injury.

The general stock of money in the United States Jan. 2, 1914, amounted to \$3,775,464,096, which is about \$8,000,000 more than the stock of the same article on Dec. 1, 1913, according to the treasury department's statement.

Freedmen of the Cherokee Nation will share in a distribution of the nation's tribal lands and funds. The district court of appeals in Washington so held in a decision which will distribute among the freedmen some \$5,000,000 of money and property.

ALONG THE WAY. No. 3.

By C. D. Lyon.

In one of these papers I mentioned the fact that I have some relatives who are wealthy people, and a word as to how the wealth came is in order.

Back in 1857, when the rich prairie lands of Illinois were selling at \$1.25 to \$4 per acre, the father of these people went west with \$1,000, the proceeds of two wheat crops, and bought land. The war came on and he was fortunate enough to have full cribs of corn to sell at good prices, and he bought more land; that is the whole story.

I have had the same story told me many times, and in four or five different states. No farther back than 1893 a young man was working for me at \$18 per month, and a cousin of his came to urge him to go with him to Nebraska. My hired man thought the distance too great and his cousin, with a good team and \$300, made the trip across four or five states alone. In 1910, when at institute work in Nebraska, at a small town, I was told that "Bill Brown expects you to spend the night with him," and for the life of me I could not recall Bill Brown. But he turned up that afternoon and I did spend the night in his \$5,000 home, to be told that in 1894 he paid \$250 for a relinquishment on a Nebraska 160-acre claim, in 1896 married a girl who owned the adjoining 160, and at the time of my visit the couple were worth not less than \$100,000 in good Nebraska soil.

That \$1.25 per acre Illinois land of 1857 is now selling at \$300 per acre, and the land that cost Bill Brown about \$1.50 per acre in 1894 is now a legal tender on the market at \$125 per acre. While the present owners are now taking, perhaps, 4 per cent per annum as rental for these lands upon the basis of their sale value, their wealth has not come from their real earnings, but from the increased value of their holdings.

More than 110 years ago my great grandfather is said to have said that "Old Symmes was a fool to pay \$2 per acre for the land between Deer Creek and Mill Creek (in Hamilton County, Ohio), when he could get better land at 67½ cents per acre forty-five miles up the river." At the present time Cincinnati stands upon the Symmes purchase, and great granddad's land up here is all under the \$100 mark.

It seems that wealth in land is nearly all a matter of accident rather than design, and I know that back about 1869 a young German was offered 160 acres of Nebraska land in trade for a saw mill that he was operating. Ten years ago the German, an old man, was operating a small bakery in an Osage River, Mo., town, and the best part of Omaha stands on the 160 acres.

Most of the wealthy farmers of today have been made rich by the appreciation in values of land rather than by any efforts of their own in the growing of crops and feeding of stock. Once in a while we find a man who has amassed considerable wealth within a very few years, and apparently it has come from the soil, but in nine cases out of ten if we go closely into the matter we will find that the greater part of it has come from methods favoring more of those of the trader or merchant than of those of the farmer.

Real wealth is too hard to obtain to be amassed by the slow and uncertain plan of true agriculture, but the real farmer, the man who owns or farms only as much land as he can properly manage, is at once the wealthiest and happiest man in the world.

Utensils should be periodically placed in the sun, but wooden vessels should be removed before the heat is sufficient to crack or warp them.

BERMUDA GRASS.

C. D. Lyon.

We have a query about this grass, and at the same time some circular matter has come to this office, sent us by parties who have the roots for sale.

Some ten years ago I became interested in this grass, and thought at the time that it would become generally grown within a few years, but the more I studied it, and the more I have seen of it, the more I become convinced that we have better forage plants.

There is no doubt of its hardiness as far north as St. Louis or Kansas City, and it grows a mile from my home in Southern Ohio, as luxuriantly as it does in Texas or Alabama.

Bermuda grass has one great fault in any but a semi-tropical district, and that fault is, that it starts late in spring and is killed to the roots by the first autumn frosts.

During the warm summer months it makes an immense lot of pasture, but in order to get the most benefit of a Bermuda pasture, it must be pastured closely from the earliest period in its growth, as it soon gets hard and wiry and stock will not eat it well.

I had never thought of the matter until I began to write this article, but it might be possible to grow Bermuda grass in connection with sweet clover, and by so doing overcome its fault of a short season.

If I intended to try Bermuda grass I would get the sweet clover established first, then run furrows through it, say four feet apart, and plant the sets or roots of Bermuda grass three or four feet apart in these furrows.

But, I would go slow in planting such land even in this way, experimenting until I found that it were practicable and profitable. There is no doubt that in some sections it will take time and probably lime and inoculation to get sweet clover started, and in such plan, provided they are not too far north, Bermuda may prove profitable, but it is a grass, not a legume, needs good soil to make a fair crop, will not grow in shade, and has many faults that will condemn it in the eyes of the average farmer at the middle north where it might possibly be grown.

MANY MATTERS.

Editor RURAL WORLD: A good letter from W. O. Penny has awakened a desire to contribute once more to the good old RURAL WORLD. A recent message from "Idyll" awakened a desire to once more write. Brother Penny's gifted article has aroused renewed inspiration to "say things."

His description of weather conditions so nearly portrays the situation here that it would be useless to repeat it. Today is one of sleet, gloom and monotony. The wintry winds whirl around our den in fantastic commotion, in vivid contrast to the fine weather of the previous week.

Like Brother Penny, we have been a contributor of neighborhood news to the county papers for many years, until the last year have written very little. Our disability has prevented the use of the pen, but have not lost interest in the oldest and best agricultural publication in the Mississippi Valley. Its bright pages, replete with many interesting topics, have been a benediction on the pathway of life.

Was interested in Brother Penny's portrayal of the characteristics of Gen. Jackson, from the fact that we are a native of the city where he won much of his renown as a soldier. I was born in New Orleans in 1847. Father moved to Indiana about two

years before the civil war; enlisted in the 15th Indiana Battery in 1861, at the age of 14 years and 7 months. Was with Burnside in his Virginia campaign and endured some of the horrors of war. The scenes of those days seem but a dream of the long ago. Our disability is all that remains to remind us of that fearful struggle.

Brother Geo. O. Wilson's version of the Illinois game laws of today and the condition of years ago is correct. They are so complicated that a justice of the Supreme Court could scarcely unravel them. When one has paid a dollar for a hunter's license he has increased the game revenue by just that much, and derives but little benefit. There are so many phases of the law that a violation of some of its provisions is liable at any time. One point is clear and has our decided opposition—that of protection for eleven months of the year and then open for one month in which to slaughter what has been protected during the closed eleven months, giving the city sportsman an opportunity to reap a remuneration from what the farmer has fed during the closed time. Either protect the whole year or open for the year. We stand for a continued protection.

WILL H. FREEMAN (DYPE).

Illinois.

INSURANCE.

Editor RURAL WORLD: In reading your worthy journal I notice that our friend, Mr. Lyon, and Agricola also I think, advise that every body take some insurance in some old line insurance company and the claim that the mutual insurance organization are all going to fail, etc. Now, if the mutuals are run on a strictly business principle will say that they are at least as safe as the old line companies. The old line companies are in the business for the money they can make out of it. First the soliciting agent, who is generally a smooth talker, deceives the applicant often by showing on paper how large dividends will accrue say in twenty years for the term of policy, but when the policy arrives there are so many stipulations and hereafter described, etc., that at best 90 per cent do not understand, and when the stipulated time has expired it is a pretty hard matter to collect more than what the insured has himself paid in, with perhaps accrued interest of a little more than one per cent or thereabout. This person when insured must be in good health to start with.

Now, what I wish to say is that any person who is in good health need not bother much about insurance, for if he is industrious and a little on the saving order he can carry his own insurance, and at the expiration of time limit, say twenty years, he will have at least twice as much money than what he gets from an insurance company if he had insured. I and several others who have had the actual experience know what we are talking about. If you doubt my statement just put up the money which you will have to do when you insure. Invest in good young breeding stock and enough feed until pasture comes (any kind of stock you take a particular liking to), and go ahead for a period of twenty years and I will bet you \$10 to \$1 that you will have several times as much at the expiration of the time limit than if you had invested in life insurance.

Life insurance companies were such rank grafters that in many states they have adopted stringent laws so they can be curbed to some extent, but it should be a law in every state (and I hope soon will be) that all the insurance companies be compelled without question to pay

full face value whatever the policy calls for at the expiration of the term stipulated on the face of policy, and all hereinafters and so forth count for naught. Then the poor and deceived will come to their just dues and not until then. Talking about trusts there never was any more venomous reptile than some of the old line companies from the east.

OLD SUBSCRIBER.

CHALMER COLMAN MARRIED.

Son of First Secretary of Agriculture Marries Widow.

Mrs. C. M. Nicholson of 725 North Union boulevard Sunday received a telegram from Brooklyn, N. Y., announcing the marriage of her brother, Chalmer ("Dennie") Colman, formerly of St. Louis, son of the late Norman J. Colman, first secretary of agriculture in the United States and founder of COLMAN'S RURAL WORLD. Mrs. Nicholson could not remember the name of the bride, who was a widow. The announcement was a surprise, although it was known the couple had been acquainted for some time, having met abroad.

Mr. Colman has lived in New York since his departure, fifteen years ago, from St. Louis. He is engaged in the publishing business there. He was born in St. Louis and educated at Washington University. His father died three years ago, after a remarkable career. He was the oldest editor in continuous service on one paper in the United States, was a member of the Board of Aldermen in 1885 and a member of Missouri Legislature in 1865.

The RURAL WORLD sends greetings to the newly married couple and wish them health and prosperity.

BOYISH MISCHIEF.

Editor RURAL WORLD: Why is it that some boys are such destructive little imps? If a man drops an empty soap box on the road, or some utensil, nothing will satisfy them but to knock it to pieces and destroy it. Toys last only a few moments, books not at all. Even "indestructible wagons" are torn and battered to a wreck. Birds are killed, nests destroyed, trees cut down—all in a revel of deviltry. The practice now is never to whip a child; but such wanton savagery needs a keen hickory laid on in lusty strokes that mean business.

C. E. DAVIS.

The late J. Pierpont Morgan's residence, Dover House, at Roehampton, England, with 140 acres of ground, is soon to be sold. Being near London it is expected that the property will sell for nearly a million dollars.

Gov. Ferris of Michigan took hold of the strike situation in the copper country. With his coming a practical truce went into effect and both sides expressed a willingness to await his findings before initiating new measures in the industrial warfare.

There is no more mystery about the origin of a dwarf fruit tree than that of any other nursery-grown fruit tree. Each is grafted or budded to produce a specified variety. The special requirement in making dwarf trees is that the "stock" (the little seedling tree) upon which the bud or scion is set must be of slow-growing habit. Most of the dwarf apple trees are made by grafting or budding the desired variety on the little wild crab of Europe called the Paradise apple. It never grows large, and though it is a sturdy, healthy nurse tree to the ingrafted top, it furnishes it but a scant living, even in rich soil, and the energies of the buds go early into fruit making.

Home Circle

Written for the RURAL WORLD.
SWEET DAYS OF LONG AGO.

By Richard E. Wingo.
Sweet days of long ago,
How dear to me they seem;
When we gathered flowers
Growing by the stream.

The spring beneath the hill,
With its water clear and cool,
Was a pleasant little place
Just after the hours of school.

How precious was the old orchard,
Then young and in its prime;
Furnished us with delicious fruits
Of many different kinds.

Golden days, oh, happy days,
Only one more glimpse of thee,
When our hearts were light and gay,
And our lives from care were free.

Written for the RURAL WORLD.
A WINTER DAY CALL.

By Mrs. M. H. Menaugh.
How good of Idyll to visit the Home Circle on New Year's Day. Her letter added to my enjoyment of the occasion, and I desire to thank her for yielding to the impulse that bade her take up the pencil.

Hope the readers one and all had a happy time. I spent the day quietly, going to church at half after ten; as I live just around the corner from the old Cathedral there was no distance to travel. Then the rest of the day I sat in the kitchen by the range, watching the pots boil, while Henry busied himself with a scroll saw, cutting out pretty things. Poor Willie had to work. We call Willie "Young Master," because he is the head of the family. We saw his sweet, boyish face at half after five, when he came to supper, which was the principal meal of the day and very modest. The menu was: Chicken, stewed; salt spareribs and cabbage, potatoes, fried and boiled; round steak with brown gravy, spaghetti and tomatoes, pork chops, cranberry pie, coffee, cheese, bread, butter and jelly.

The chicken cost 52 cents and was a bargain, as poultry sells now. Mamma often cooked a larger one that was bought for 25 cents. We had no turkey at Christmas owing to a famine in the article that befell on Christmas eve. I delayed getting our turkey until it was too late.

At supper on New Year's, "Young Master" fancied poultry, spaghetti and potatoes fried.

Henry feasted on cabbage, chops, potatoes, boiled, and cheese, while "mamma" (this time the title means me) contented herself with pastry, coffee and lowly spareribs.

Speaking of supper, I am some time going to tell you of a Sunday evening when I had unexpected callers and got up a meal out of an almost empty larder, but for the present will only remain long enough to say thank you and God bless you to Mrs. Mardie, Aunt Samantha, Mr. Lyon, Mr. Hendricks, Agricola, Mrs. Dale, Goose Quill, Mr. Vassar, Mrs. Bauer, Mrs. Wilder, Mrs. Cody and the others who have so faithfully met with us in the Home Circle during 1913.

And I hope the ensuing year will be a bright, eventful one in every

home in which the RURAL WORLD enters, and I take it upon myself to invite admiring readers to "come over and help us." Come and join the charmed circle and be happy.

Mrs. D'Oench, now that she has received her hand of fellowship, surely will come often.

Personally Mrs. D'Oench is a delightful little lady. I had the pleasure of an introduction in the RURAL WORLD office, Mrs. Cornman doing the honors of the occasion about two years ago.

Written for the RURAL WORLD.
OUR COVE.

By Aunt Ray.

I thought perhaps some of our Circle might like to hear the description of Our Cove.

It is bounded by the White River and the Ozarks. Our fence is durable, strong and beautiful. Nature's handiwork. The river and mountains both have their charms. The Cove is interspersed with hills and hollows. There are many fine farms. Every time we drive out we admire the scenery, it is so varied. What fine landscape drawings it would make!

The Cove is seven miles long and five or six wide. Shell Knob is the town. It is built on an elevation and one mile from our house. It has eight dwelling houses, two stores, two churches, a Baptist and Christian church. Both are new and good buildings. Have a switchboard, hotel, mill, saw mill, blacksmith shop and drug store. The school house is on a hill higher up. Have a minister and doctor living in town. The wells here are deep, many over 100 feet deep. You can head the drill very often. Down to the rock is five feet, then rock the rest of the way. There are many good springs. One on our farm that would furnish the neighborhood. When we came here over thirty years ago there were few wells. The water was mostly carried up hill. Many would carry the bucket on their head. I never fell in with that style.

Over a mile from here up on the side of the mountain is a large onyx cave. It was worked a few years ago. The stone was hauled to Eureka and manufactured in various ways. On the river bottom the corn was good. The rains follow the river, and they have good crops. It was very dry with us. We had corn, but not very solid. A farmer on the river raised a crop of wheat. After he had cut his wheat he planted corn and had a good crop. Then when he laid his corn by he sowed wheat again. He being young, was proud of his work. Have known him and his wife all their lives. We gave sister's lemon tree to the wife. She has a large bay-window to put it in. It was full of lemons, but all dropped off except eight. On the 22nd of November it had eight fine lemons on it most ripe. The largest would weigh a pound.

The occupation of the people to a good extent is dealing in cattle, buying and selling. The greater part of the cattle come from Arkansas.

Our mail comes in every day by hack from Cassville, our nearest railroad. It is twenty miles away. Forgot to say we have four school houses in the Cove, and can hear the bells of three.

Well, Christmas has come and gone and we had no tree at our house. The spirit was willing but the flesh was weak. Some children called, anyway. Gave them some gifts and they were happy. Christmas day the snow cov-

ered all the trees and bushes. Some it broke down. We received a package of cake from North Dakota. It was good and we appreciated it, as it was from our folks.

Wishing you all a pleasant and prosperous year, I will say good-bye.

Shell Knob, Mo.

Written for the RURAL WORLD.
MORAL COWARDS AND SLAVES.

By Aunt Samantha.

If I had the power to bestow on this country of ours the thing it most urgently needs, next to "pure and undefiled religion," I would give it a strong national temperance law, and compel its enforcement by the officers of the law, because in my judgment such a law would be most conducive to educational, industrial and moral uplift of the nation. We call ourselves a free people and boast of our "Land of the free and home of the brave," while in fact we live in the land of the coward and home of the slave. I mean moral cowards. Men and women of today are afraid to speak their honest convictions, much less live them. I have heard ministers of the Gospel assert they could not speak the truth boldly to their congregations, for it was not safe nor politic for them to do so, but when they needed such sermons as these they needs must send for an evangelist to preach them. Now if this is not moral cowardice, what is it? Paul says preach the truth boldly. "The wicked flee where no man pursueth, but the righteous are bold as a lion."—Prov. 28-1. When the righteous are in authority the people rejoice. But when the wicked beareth rule the people mourn. Are we as a nation going to let righteousness prevail and rule our nation or are we going to continue to be (to a great extent at least) moral cowards and slaves? We are slaves to society, slaves to fashion, slaves to style, and slaves to Mrs. Grundy, and some of us are slaves to that dreadful family, "They," and some of us are so namby pamby that we are afraid to say our soul is our own for fear some one will say the devil has a mortgage on it. Conscience makes cowards of us all. But I honestly believe the most of us want to do right by our fellow man, "so let us strive to keep alive that little spark of celestial fire called conscience." "Our nation is big enough to be ashamed of wrong doing." But is it? There are crimes committed and vile transactions permitted that deeds done in our beloved United States that would disgrace the most heathenish nation, to say nothing of a civilized one. When people wander away from the true God and build for themselves idols of clay or gold, as the case may be, they soon become a perverted people, and the mouth of the wicked poureth out evil things, for "an ungodly man digeth up evil and in his lips there is a burning fire."—Prov. 16-27.

Written for the RURAL WORLD.
SUGGESTIONS FOR THE HOUSEHOLD.

By Nellie Arnold.

I have heard many good cooks say "I never could make a real nice cake," or "I've no luck when it comes to cake baking." In fact, I used to feel discouraged when a cake was to be baked, feeling sure it would be a failure. But I remember during an illness some time ago. I had such a dear girl to assist with my work, and such lovely cakes as she made! Every cake seemed perfect. I said to her: "Nell, I follow receipts in the White House cook book, but my cakes are not as good as yours." She said: "You probably use too much butter and sugar." And then she told me that where receipts call for 1 cup milk, 2 cups sugar, 1 cup butter, etc., that she only

uses 1½ cups sugar, or very scant two cups, and never more than ½ or ¾ cup butter. She, however, used half butter and half lard, thinking it made better cakes than all butter. I followed her directions and find that my cakes are much better when less sugar and shortening are used. I, however, use the usual amount of milk, eggs, etc.

For an "every day" cake, one the children can lunch on, I use the following receipt: One and one-half cups sugar, half cup butter and fard mixed, one egg, one-quarter cup hot water, beaten together until smooth; then add a pinch of salt, flavoring, and two cups pastry flour, to which has been added two large, rounding teaspoons baking powder and three-quarters of a cup of water. Beat this well together until sugar is thoroughly dissolved. It should be a rather thin batter. Bake in three layers and put together with French cream icing. I said pastry flour, for it makes the best cakes. Sometimes more than two cups of flour is needed, according to the kind of flour used.

French Cream Icing—Three cups sugar, one cup water, half cup white syrup, pinch of salt, boiled together until when tested in a cup of cold water it will make a very soft drop or ball. Do not stir while boiling. Set pan aside to cool until it is a little more than milk warm, but not hot. Set pan in kitchen to cool, not in a cold room where the outside would cool and harden before the inside is cool. Set a cup of hot water, a spoon and flavoring bottle on table; take pan of cooled syrup and stir without intermission until it is white and creamy, about as thin as thick cream. If it seems too thick, keep adding half teaspoon hot water occasionally. It should be thin enough to pour on cake like the high priced icing you buy for 25 cents per pound. This should be poured in a bowl and covered with a saucer. Use as desired. Add flavoring as you like. This is enough for two large or three small cakes. Can be made in large quantities. I have in my pantry a bowl of this colored pink and flavored with strawberry, a bowl to which chocolate has been added, and a bowl of white, flavored with lemon. I often make this "Lunch Cake" when I have fire at breakfast time, and ice after breakfast. For the icing is so convenient.

If any of the sisters could tell me of a reliable cough remedy, I would appreciate it. Since having grip in the fall I have been worried with a severe cough, and no doctor, drug store or home-made remedy has yet benefited me any. At this time it is so severe I am unable to attend to household duties.

A NEW EDIBLE BEAN.

A new variety of bean adapted for dry climates was discovered in interesting circumstances by Professor R. W. Clothier of the University of Arizona, and reported by him in a recent article. During a 1300-mile wagon journey over the deserts and mountains of Arizona in the summer of 1908 he visited the Papago Indians and obtained from them several hundred brownish-yellow beans of an unknown variety.

These were grown on experimental plots at the Arizona Experiment Station for four years before the discovery was announced. It appears that the new bean, which has been named "tepar," is more prolific under dry conditions than any other known variety, yielding as high as 730 pounds to the acre, with no water other than the scanty rainfall of Arizona. Under the same conditions ordinary beans yield only 66 to 144 pounds to the acre.

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THE NEARER WAY.

I dreamed I heard the suffering Savior say
To him who pierced him with a Roman dart,
"Did'st thou but know, there is a nearer way
Unto my heart."

And straight the arrow of conviction flew
Into my heart, and scales fell from my eyes,
And in a moment I those secrets knew
Hid from the wise.

To love and not to hate; to give, not gain;
To seek no more to rule, but to obey,
And gladly for his sake to suffer pain;

This is the way.
—Alex Small.

THE SUGAR BEET AS AN ARTICLE OF FOOD.

Very few people seem to be acquainted with the fact that the sugar beet grown so abundantly in Northern Colorado is an article of food for the table. The beet when cooked is far superior to our ordinary table beet due to its high per cent of sugar. The sugar beet contains from 15 to 17 per cent of sugar, while the red beet averages 10 and 12 per cent. It may be cooked as the table beet, but requiring a longer time of cooking because of its size.

Aside from the fact that it is not as attractive in appearance as the red beet, I think it will find general favor among those who care to test it.

Below are directions for the cooking and serving of the sugar beet:

Wash the beets but do not remove the skin. Leave a portion if the top on so as to retain the juices. Cook in boiling water until tender. Peel and quarter or cut in slices. Make a sauce of melted butter, salt and pepper, pour over beets and serve hot.—M. M. Haynes, Colorado Agricultural College.

FAMOUS LITERARY BLUNDERS.

The blunders of literary men and women are not only very often amusing, but they possess a peculiar fascination. There are few of us who do not rejoice when we catch Homer nodding.

Few writers of distinction have escaped these lapses, from Shakespeare, who refers in "Julius Caesar" to clocks some 14 centuries before they were invented, and who makes cannon thunder in "King John," and introduces a pistol in "Henry V." to the modern novelist, who places Bombay in Bengal.

Speaking of modern authors reminds one of Miss Corelli, who has enriched the world of zoology with the eight "Highland bull-heifers" appearing in her "Treasure of Heaven." Thackeray's most celebrated blunder was the killing of Lord Farintosh's mother and then bringing her to life again, a mistake which he noticed

himself and to which he draws the attention of the reader, but which it would have been difficult to alter subsequently.

One of the best-known poetical quotations embodies a classic blunder which is hardly ever noticed, although the lines are in daily use. These are Milton's "Thick as autumnal leaves that strow the brooks in Vallombrosa." The simile is beautiful, but inaccurate, for the trees of Vallombrosa are pines, which are not in the habit of casting their leaves in autumn.

Another very well-known quotation embodying a "howler" is Byron's "I stood in Venice on the Bridge of Sighs, a palace and a prison on each hand." These words would actually imply the existence of two prisons and two palaces, which Byron did not mean. Every reader of Herrick, and a good many people who have never read his lyrics know the line, "Her eyes the glowworm lend thee." The confusion of ideas is natural enough, but naturalists stake their reputation on the glow worm's being in fact sightless.

BABY'S EARACHE.

At that tender age when baby's only speech is a cry, piercing cries attended with much tossing of the baby's head from side to side, with a constant tendency to movement of the hands to the head, means earache. Though this is not always serious, the doctor must be consulted. While waiting for him the ear pain may be relieved by a tiny hot water bottle placed over the ear. A flannel bag shaped like a glove finger may be filled with heated salt and placed within the hollow of the ear.

HOW THE FRENCH DINE.

A typical French dinner, such a dinner as a small tradesman's family would have, is incomparably superior to the plain roast dinner. There would be, first of all, a few relishes, according to the season of the year. Radishes, ice cold; sardines, olives, caviare.

Just a little of each with which to awaken the appetite, then the soup to excite gently the liquids of the throat and stomach, then a little entree, usually a bit of fish with its appropriate vegetable, or a handful of vegetables flavored with meat sauce. Then, and not till then, does the chief course appear.

It may be a roast, or game, or a chicken, or chops, but in no case will it be anything which is not in harmony with the previous courses and it will be eaten in moderation, for the edge of the dinner's appetite will have been dulled by the lighter foods which have preceded it.

With it comes the salad, varied throughout the year by all the possible changes of the season, and never, never by any possibility will it be such a dreadful hybrid as the romaine, strawberry and green pepper thing. After the salad there will be fruit or mellow cheese, and then coffee.

It will take two hours to eat such a dinner, but it will take only half what the typical American dinner costs to pay for it, and there will be of what the dinner is composed—no indigestion afterward, no matter Princess Hassan in an interview in The Delineator.

It is false economy to buy second or third rate goods.

Paraguay has valuable forest resources, the most important of which is quebracho, particularly rich in tannin.

HOUSEHOLD HINTS.

It is always important to utilize left-over meats.

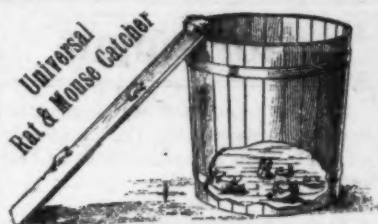
Meat and rice croquettes offer a way of using up cold roast or steak.

The fittings of the dressing table are now nearly always selected to match the room.

Made-over dishes from mince meats and highly seasoned mixtures are out of place at breakfast.

Canned fish and meat, and jars of bacon and dried beef make the preparation of lunch and breakfast dainties easy.

The sensible modern woman "makes her head save her heels" by planning her housekeeping as if it were a business.



Cleans a building of Rats and Mice in short time. Keeps it cleaned, for it is always ready for use. Made of galvanized iron, can't get out of order. Lasts for years. Large number can be caught daily. Go to Catcher mornings, remove device inside, which only takes few seconds, take out dead rats and mice, replace device, it is ready for another catch. Small piece cheese is used, doing away with poisons. Catcher is 18 inches high, 10 inches diameter. When rats pass device they die, no marks left on them. Catcher is always clean. One of these Catchers set in a livery stable in Scranton, Pa., caught over 100 rats in a month. One sent prepaid to any place in United States upon receipt of \$3. Catcher, 8 in. high, for mice only, prepaid \$1. On account of shipping charges being prepaid, remittance is requested with order. H. D. SWARTS, Inventor and Manufacturer, Scranton, Pa.

PATTERNS FOR RURAL WORLD READERS.

9571. Girls' Underwaist, Bloomers and Petticoat.

Cut in six sizes: 2, 4, 6, 8, 10 and 12 years. For the 8-year size it will require 1 1/4 yard for the petticoat, 1 1/2 yard for the bloomers and 1 yard for the waist, of 36-inch material. Price 10c.

9802. Girl's Dress.

Cut in four sizes: 1, 2, 3 and 4 years. It requires 2 1/4 yards of 27-inch material for a 4-year size. Price 10c.

9803. Ladies' Bolero and Vest in Two Styles.

Cut in three sizes: Small, medium and large. It requires 1 1/4 yard of 27-inch material for No. 1, 1 1/2 yard for No. 2 and 1 3/4 yard for No. 3 for a medium size. Price 10c.

9787. Ladies' Shirt Waist.

Cut in seven sizes: 32, 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 2 1/4 yards of 40-inch material for a 36-inch size. Price 10c.

9420. Boy's Suit.

Cut in four sizes: 3, 4, 5 and 6 years. It requires 3 yards of 44-inch material for the 3-year size. Price 10c.

9808. Girl's Dress.

Cut in five sizes: 8, 10, 12, 14 and 16 years. It requires 4 1/4 yards of 40-inch material for a 10-year size. Price 10c.

9359. Ladies' Work Apron.

Cut in three sizes: Small, medium and large. It requires 3 1/2 yards of 36-inch material for the medium size. Price 10c.

9800-9801. Ladies' Coat Suit.

Coat 9800 cut in six sizes: 32, 34, 36, 38, 40 and 42 inches bust measure. It requires 4 yards of 44-inch material for a 34-inch size. For shorter length 1/2 yard less. Skirt 9801 cut in five sizes: 22, 24, 26, 28 and 30 inches waist measure. It requires 3 yards of 44-inch material for a 24-inch size. This calls for two separate patterns 10c for each.

These patterns will be sent to RURAL WORLD subscribers for 10 cents each (silver or stamps).

If you want more than one pattern, send 10 cents for each additional pattern desired.

Fill out this coupon and send it to COLMAN'S RURAL WORLD, 821 Holland Building, St. Louis, Mo.:

Pattern No. Size Years
Bust in. Waist in.
Name
Address

In ordering patterns for Waist, give bust measure only; for Skirts, give waist measure only; for children give age only; while for patterns for Aprons say, large, small or medium.

Horseman

The Jefferson County Agricultural Society of Smithfield, O., has decided on Sept. 23 to 25 as the dates of their annual fair.

At a recent meeting of the Rushville, Ind., Fair Association, W. H. Alexander was chosen president and John G. Thomas secretary.

The Fort Wayne, Ind., Fair and Amusement Association is the name of the new fair organization which will give race meetings and fairs at Fort Wayne, Ind.

The annual meeting of the Road Horse Association of New Jersey will be held at Newark on Jan. 20, when officers and board of directors will be elected for the ensuing year.

The Merchants and Manufacturers \$10,000 purse, the classic Detroit event for trotters, has been changed from the 2.24 to the 2.14 class. The announcement was made last week by officials of the Detroit Driving Club.

The annual meeting of the Kansas and Oklahoma Circuit will be held at Muskogee, Okla., January 26 and 27, 1914. Secretary E. L. Teed extends a cordial invitation to fair officials and horsemen to attend the meeting.

If officials of the Detroit Driving Club can land the opening week in the Grand Circuit, the Detroit meeting will likely be a six-day affair, opening on Saturday July 4, and continuing through five days of the following week.

Ollie McKinney, the three-year-old filly by Prince by McKinney, dam Queensland, by Bingen, that William Cahill of New York City bought last year, has shown much development and looks like a high-class prospect for the races.

The annual meeting of the West Michigan State Fair will be held at Grand Rapids on Jan. 20. At the meeting a complete reorganization of the board will be consummated. The dates favored for the fair this year are the week of Sept. 7.

Edna Patch, a green pacer by Dan Patch, 1.55 1/4, dam Lady Mascot, 2.55 1/4, by Red Wilkes, owned by the Cloverdale Stock Farm at St. Paul, Minn., will be headed towards the big tracks this year, as last season she was second in 2.08 1/2 to Empire Direct, going to the half in 1.01 and the quarter in 29 seconds.

HORSE BREEDING WHERE NATURE HAS ITS WAY.

As I have put in 20 years on the range with horses and have watched them and studied them in their natural ways, I will give my idea as to why some stallions don't get a larger percentage of mares in foal. I believe that too many stallions are allowed to serve mares at two years.

Now what I notice on the range where nature has its way is this: The older stallions invariably whip the young ones because their teeth are much better than the young ones. Therefore the young ones are kept whipped off until they are old enough to whip the older ones. They have one fight each year. This is early in the spring. The rest of the year the young stallion only has to see his master start for him and he will take a hike. The young stallion has a very poor show at a mare, as he is so rough and awkward a mare won't

stand still for him. Therefore she will mate with the old horse and won't leave him at all until she is out of heat. By the time the young stallion gets to be three years old he is educated enough to herd a bunch of mares so he leaves his old home or bunch and strikes out like a young man and travels until he finds a bunch that has strayed away. He will take charge of them and herd them. He is very careful not to let them get over near the old horse's range as he is afraid of him. So you can see why the range stallion is so much surer than his brother that is kept up and encouraged to serve mares while he is young."—L. D. Canyon county, Idaho, in American Breeder.

PREVENTION OF NAVEL ILL OF COLTS.

This disease is also known as joint ill, omphalo phlebitis, septic arthritis of sucklings, and pyosepticemia of the newly born.

The many requests for information regarding this ailment of newly born colts indicate that it exists in many localities. The unfavorable outlook after the appearance of the disease, together with the fact that the disease when present requires the attention of a veterinarian, demands that the breeder should concern himself with its prevention.

This disease is caused by a micro-organism, and several bacteria have been suspected of being responsible for this malady. Every one of the suspected organisms is found abundantly in manure and objects contaminated with manure. The infective material gains entrance into the colt through the open umbilical cord as a result of its coming in contact with the litter, floors, or discharges from its dam contaminated by one of the organisms, which cause the trouble. There are cases on record where the infection has taken place before birth, and while some investigators claim this method to be the principal mode of infection, still the prophylactic measures adopted to guard against the infection through the naval cord have given good results in a large number of cases. Since infected for all practical purposes in preventing navel ill by guarding against the infection through the cord at birth or soon afterwards.

Cleanliness of stables where pregnant mares are kept must be insisted upon. This is especially necessary where outbreaks of navel ill have been known to exist. Mares in the last stages of gestation should be placed in a box stall which has previously been cleaned and disinfected. The bedding should be frequently renewed, and the external genitals and neighboring tissues should be kept clean and disinfected with a 2 per cent solution of carbolic acid or 1 per cent liquor cresolis compositis, or any other reliable disinfecting agent. Operations for opening abscesses and removal of afterbirths from cows should not be executed in the immediate vicinity of mares in an advanced stage of pregnancy.

The foal when dropped should be placed on clean bedding. In any event the cord of the foal should be washed in a disinfectant solution and tied at about one and one-half inches from the navel with a band or string which has previously been soaked in a disinfectant solution. The navel cord is then severed about one-half inch below the band with a sharp pair of scissors and again disinfected. The ligature should, however, not be tightened until pulsation of the vessels in the cord has ceased. The stump of the cord is then painted with strong carbolic acid solution, tincture of iodine, or a mixture of

equal parts of tincture of iodine and glycerin. The stump should be washed daily with a disinfectant and either painted with iodine mixture or carbolic acid, or dusted with some reliable antiseptic healing powder. The parchment-like dried stump may be cut off after five days and the navel wound washed with a disinfectant solution and dusted with powder until healed.

The cases of navel ill resulting from infection before birth can not well be guarded against. By keeping those mares which are advanced in pregnancy in good physical condition the fetus will be expelled immediately upon the opening of the uterine cavity.

Once the infection of the naval cord has set in, the cord should not be ligated, but should be washed in a disinfectant solution and a veterinarian called for the subsequent treatment.

CLIPPED HORSES ARE HEALTHY.

When passing along a street or road, notice the difference in the manner of working between a smooth coated horse and one with long hair. The former steps along with a vigor and willingness as if he felt like work, while the latter drags along and must be nagged by the driver. The least undue exercise, which the unclipped horse takes, means profuse sweating and in consequence a bad cold, if left standing uncovered.

IMPROVES AND CHEAPENS RATION.

The Iowa station has found that a small amount of oil meal or cottonseed meal added to corn and oats improves and cheapens the ration for work horses. A mixture of seventy-seven pounds of shelled corn, fifteen pounds of oats and eight pound of oil meal gave excellent results. Cottonseed meal gave somewhat better results than oil meal and the ration was a little cheaper in the proportion of seventy-nine pounds corn, fifteen pounds oats and six pounds oil meal.

BLANKETS PAY PROFIT.

Blankets prevent the rapid escape of vital heat and reduce the rapid consumption of food to produce heat. The blanketed horse is not compelled to use so much of its feed to produce heat, and he has a larger portion of food consumed to convert into muscle or fat. On the same amount of food, other things being equal, the blanketed horse can do more work and keep in better condition.

LEGEND OF THE HORSESHOE.

Do you know the German legend of the horseshoe? In the olden times, in a little village of Germany, a blacksmith was hard at work. The sound of the anvil attracted the attention of the devil. He saw that the smith was making horseshoes, and he thought it would be a good idea to get his own hoofs shod. So the devil struck a bargain and put up his foot.

The blacksmith saw with whom he was dealing, and nailed on a red-hot shoe driving the nails square into the devil's hoof. The devil then paid him, and left; but the honest blacksmith threw the money into the fire. He knew it would bring him bad luck.

Meanwhile the devil walked some distance and began to suffer the greatest torture from the shoes. The more he danced and kicked and swore, the worse the things hurt him. Finally, after he had gone through the most fearful agony, he tore them off and threw them away.

From that time forward, wherever he saw a horseshoe, he would run off,

5TH ANNUAL

Public Sale

of 27 head of High Class Registered BLACK JACKS and JENNETS

15 head of Registered Poland Chinas, consisting of bred Sows, Gilts and young Boars. Also 3 Good Jersey Milch Cows.

JACKSON, MO.

Tuesday, February 10, 1914.

Every animal guaranteed to be as represented. Nothing priced or sold privately after catalogued. If interested write for catalogue and come to the sale. You will not be disappointed, but highly pleased with the offerings. Catalogues will be ready to mail February 1st, 1914.

Jennets in this sale mostly bred to a son of Orphan Boy, No. 696, Grand Champion Jack at the St. Louis World's Fair, 1904.

W. F. SCHADE,

Jackson, Cape Girardeau County, Mo.

Horsemen Here's Your Chance!

LESS THAN HALF PRICE!

FARRIERY

The Art of Shoeing Horses

Everyone who owns a horse should have a copy of "Shoeing Horses," by R. Boylston Hall, who has been engaged in "balancing" the feet of horses for over 45 years. The author is now 74 years old and wishes to dispose of some 300 books at a price which will enable horse owners to buy without hesitation. The author wants to do some good in the way of increased comfort to the horse, and we have arranged to take the entire edition and send them to horse owners with a yearly subscription to COLMAN'S RURAL WORLD for \$1.35. Send in your order at once, as they won't last long.

Address COLMAN'S RURAL WORLD, 821 Holland Building, St. Louis, Mo.

Forest Grove, Oregon, March 15, 1913.

Mr. R. Boylston Hall, 40 State St., Room 43, Boston:

Dear Sir—I wish to apologise for not acknowledging receipt of your book on Horse Shoeing before. Your book arrived just as I was moving, and I didn't have time till a few days ago to read it. You certainly deserve full credit for your work and the congratulations of every horse owner. The easy and clear way you explain your principles makes it a book that everybody can read and understand, this alone being worth more than all the treatises written on that subject so far. Hoping that you are getting all the credit due to you, and again thanking you for remembering me, I am, yours very truly, (Signed) C. P. McCAN.

anxious only to get out of the way. The German peasantry believe this legend to-day, and one will scarcely find a doorstep or a barn door that hasn't a horseshoe nailed up.

A HORSE TO THIRTY ACRES.

"You will lose money if you have more than one work horse for every thirty acres," said Mr. William M. Jardine, Professor of Agronomy at the Kansas State Agricultural College, recently. "If the farm is run right, four horses are sufficient to handle a quarter section."

It is generally conceded by those experienced in farming that the bigger the horse the better. Draft horses should be bred up in size as much as possible. It costs very little more to keep large horses than it does to keep small ones, and they accomplish so much more that they are very profitable. A draft horse should weigh at least 1700 pounds, but is of more value if about 2,000 pounds or over.

Two of these work horses should be brood mares. They should be with foal during the light working season when the other two can do the work. In a very short time the colts can take care of themselves, and the mares may be worked with the others.

"A horse loses 10 per cent of its

original value each year" Professor Jardine said. "Ten years is the average period of usefulness of the draft horse, depending, of course, on the quality of the horse, the kind of work done, and the care taken of it."

It is well to keep an extra driving horse for family use, since work often will be delayed, while some member of the family drives a work horse to town.

SILENT SUFFERERS.

An Eastern writer has called attention to the extent that horses suffer in silence, since God has denied them the voice to exclaim when in pain. Dogs whine and yelp, and cats scream when suffering, but horses seldom utter a single cry. Most horses that die in pain expire in silence, or utter merely a moan.

All observation shows that they almost invariably endure their agony in silence. The hunter who has been staked will rush on his course till he drops from loss of blood.

The cart horses of our busy cities make no audible complaint under the lash of the whip, the strain of an overload, or the stupid jerking of the reins by ignorant drivers. It can not be that they lack the will, but they have not the power.

This fact should teach all men to use horses with great tenderness and consideration. The man who is gentle with horses has a good heart.

A clerk who had been apparently faithful for many years was convicted of cruelty to a horse. Later his books showed that he had been guilty of embezzlement, and within a year his wife got a divorce from him because he choked her.

PROFITS ON COLTS.

The Department of Agriculture has been studying the results of horse breeding in the United States, based on the reports from 10,000 breeders, and finds that there is a profit of about 40 per cent, in a three-year colt above the cost of raising. The net cost of producing and growing a colt to the age of three years, allowing for work done, averages \$96.54, and the selling price averages \$136.17. The leading cost is feeding, 54 per cent; cost for care and shelter 16 per cent, and the remainder is covered by breaking to halter, by veterinary service and by sundry items.

GOOD HORSE STORIES.

The ability of some horses to understand and act with intelligence is well known by those who have had the handling of a large number of animals. The following stories will show how near some horses come to possessing human understanding:

A grocer at McKeesport, Penn., while driving suffered a paralytic stroke and was unable to direct his horse. But the intelligent animal seemed to divine his master's need, and trotted to the city hospital with his unconscious burden. Could a fellow human being have afforded the stricken man any more prompt assistance in his extremity?

A leading Altoona physician while driving was thrown out and seriously injured. The place was out of the way, but his horse proved equal to the emergency and by loud and constant neighing brought assistance to its helpless master. When a horse will do that for a man it is the best evidence that the right relations exist between the man and his beast.

The whinny of a faithful horse saved his driver's life in an Ohio city. Charles Tate, who is a driver for a mercantile house, became benumbed with cold and fell from his wagon on Lake avenue. The horse,

knowing something was wrong, stopped in the road. Many teams passed, but whinny after whinny failed to stop any one until a policeman answered the call and found Tate, face downward, in the snow. Tate was taken to St. John's hospital, where it was found that his feet and hands were badly frozen.

A business man of Allwood, N. J., who had just recovered from illness, was riding when he was overcome by dizziness and fell from his horse unconscious upon a railroad track. The intelligent animal he had been riding sized up the situation, and seizing his master's clothing between his teeth, dragged him ten feet out of the way of a rapidly approaching train. The engineer of the same was moved to shout from his cab: "Good horse! good horse!" as the engine sped by. An incident like that may well give us doubt if we are correct in assuming that the so-called lower animals have no souls.

VALUES IN HORSES.

The real test of value in a horse is strength, lively action and endurance, combined in the lightest weight possible. In the make-up of a first-class draft horse quality counts for more than bulk.

THE NERVOUS HORSE.

If your horse is nervous and restless to hitch, do not try to break him by having men hold him by the head; that only annoys him. Try this: Put on the harness, then a strong halter, guy him securely right and left; let him stand some time; then pull up your buggy, attach him to it, get in and after a few moments get out; go away and leave him; come back, walk around him, have somebody un-snap the guys; do not wait the first lesson to remove the halter. Repeat this lesson every day, or twice a day for a week or so, and if you are not the owner of a fool horse, anybody will be able to hitch him alone.

WATCH YOUR HORSE.

The language of the horse is easily earned. If drivers would watch carefully the horses under their care they could readily detect the signs of uneasiness or suffering. It is a well-known fact that the ears of the horse express his emotion.

When they have a backward slant, it shows he is ill-treated or thinks he is going to be. Through the eye the horse expresses his feelings. When he is suffering, his eye is contracted and has a nervous restless expression easily recognized. When a horse is comfortable, his eye seems large and full and has a serene look.

OILMEAL EFFECTS.

With horses the good effect of oilmeal consists not in the fact that it directly makes fat, but that it enables the stomach to digest food more perfectly.

The attention of our readers is directed to the advertisement of W. F. Schade's fifth annual sale, which appears in another column. Mr. Schade is well and favorably known to stockmen, having a widespread reputation, as for twenty-four years he has been handling jacks and jennets, and his annual sales have become a fixed feature, which draw buyers from many states. In this sale will be offered 25 jacks and jennets, most of the latter bred to a son of Orphan Boy No. 696, grand champion at the St. Louis World's Fair. Anyone interested in jacks or jennets will do well to write Mr. Schade for a free catalogue and attend the sale.

WHY NOT BUY FROM A RELIABLE HOUSE
CLOVER, TIMOTHY, RED TOP, BLUE GRASS,
GARDEN & FLOWER SEEDS OF SUPERIOR QUALITY.

Write for Catalogue.

JUL. PETERSEN SEED & COM. CO.

709 Carroll St.

St. Louis.



"MEAT FROM THE SHELL, or How to Make a Dollar Stretch," is such a valuable and helpful book that we recommend it to our readers, and fully believe that when they receive a copy and read it that they would not sell it for three times what it cost. Send prepaid with one year's subscription to COLMAN'S RURAL WORLD, \$1.00. Send your order at once.

THREE FOR ONE

COLMAN'S RURAL WORLD
Twice-a-Week Republic
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ALL
ONE YEAR
FOR \$1.00

This issue of Colman's Rural World is a fair sample of all issues and speaks for itself.

Farm Progress is the biggest and best semi-monthly farm paper in the great Southwest.

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SEND \$1.00 FOR ALL THREE FOR ONE YEAR.

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"INVINCIBLE, UNSURPASSABLE, WITHOUT A PEER"

Writes a regular subscriber, who has read it for many years, of the TWICE-A-WEEK issue of the

St. Louis Globe-Democrat

TWO ONE-DOLLAR PAPERS ONE YEAR FOR ONLY \$1, and this is the unanimous verdict of its more than a half million readers. It is, BEYOND ALL COMPARISON, the biggest and cheapest national news and family journal published in America. It is STRICTLY REPUBLICAN in politics, but is above all A NEWSPAPER, and gives ALL THE NEWS PROMPTLY, accurately and impartially. IT IS INDISPENSABLE to the Farmer, Merchant or Professional Man who desires to keep thoroughly posted, but has not the time to read a large daily paper, while its great variety of well-selected reading matter makes it an INVALUABLE HOME AND FAMILY PAPER.

Two Papers Every Week. Eight Pages each Tuesday and Friday. Sample Copies Free.

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EITHER ADDRESS, BOTH FOR **\$1.00 NET**

BRINGING THE PRODUCER AND CONSUMER TOGETHER

Co-Operation the Key That Will Unlock the Door
of Prosperity to Farmers.

MINUTES OF THE THIRD ANNUAL MEETING OF THE FARMERS' EQUITY UNION.

Held in Mercantile Club Rooms, Kansas City, Kan., Dec. 17th and 18th, 1913.

Convention called to order by National President C. O. Drayton. Opened with prayer by Rev. Frank G. Beardsley of Kansas City, Kan. The address of welcome was given by C. W. Green, Mayor of Kansas City, Kan. Response by President Drayton.

The following committees were appointed

Auditing Committee—T. L. Line, R. Romer and Albert Larimore.

Committee on Resolutions—John L. Boles, A. Hoffman, H. O. Bratsberg and S. S. Ray.

Committee on Managers and Auditors—J. E. Stevens, H. L. Holde-man, H. W. Fromme and O. M. Ballard.

Committee on Credentials—L. F. Hoffman, Walter Newby, William Peters and H. Baker.

Press Committee—J. W. Ray, O. H. Opland and C. R. Henry.

Committee on Question Box—Charles McCauley, Frank Hoffman and A. Hoffman.

The reports of all Local Unions represented in the convention were made by the delegates, and also reports were received from other Locals. These reports were very encouraging. They showed that our members had made nearly one million dollars in one year by being co-operators.

Instead of forty-eight Locals, as reported last year, there were 105 Local Unions to report. Instead of 3,000 members enrolled there were nearly 9,000 enrolled. New England, N. D. Exchange reported \$8,500 dividend, or 100 per cent; Regent, N. D., \$5,540.72; Liberal, Kan., paid a stock dividend of 5 per cent and a patronage dividend of 12 per cent. That is, they paid back to stockholders 120 in cash for every thousand dollars' worth of business furnished. Mott, N. D., reported net earnings of \$9,160 in handling the 1912 grain crop. Leola, S. D., showed a total profit of \$4,828 on all business for the year. St. Francis, Kan., reported 177 live Equity Union members. They are a new union, organized in October, 1913. Every report was encouraging.

Amendments to By-Laws.

Section 4, of Article 6, of the National By-Laws, as amended now reads:

Sec. 4. Officers—The officers of the National Union shall be a President, Vice-President, Secretary and Treasurer and a Board of Directors. The Board of Directors shall consist of one director from each state in which this Union is organized each to serve four years. The Secretary and Treasurer shall be appointed or employed by the Board of Directors. Each year at the annual meeting the National Union shall elect a President and a Vice-President from the Board of Directors.

Art. 2, Sec. 2, of National By-Laws must read:

Managers and stockholders in Equity Exchanges must be members of the Farmers' Equity Union.

Art. 1 Sec. 2, amended by striking

out the words, "Machinery, grocer, dry goods, clothing and every household necessities," and substitute for these words "merchandise."

In Art. 3, Sec. 9, the words "business agent" are stricken out.

Election of Officers.

C. O. Drayton was the unanimous choice of the convention for President. Mr. Romer of Liberal, Kan., was chosen Vice-President.

The Board of Directors as elected is as follows:

C. O. Drayton, Greenville, Ill., four years.

L. F. Hoffman, Mott, N. D., four years.

Edwin W. Reed, Lux, Neb., four years.

E. L. Waters, Yuma, Colo., three years.

S. S. Ray, Cyrene, Mo., three years.

R. Romer, Liberal, Kan., three years.

T. L. Line, Columbia City, Ind., two years.

A. Hoffman, Leola, S. D., two years.

R. L. Cook, Guymon, Okla., one year.

Charles Kraft, Odessa, Minn., one year.

The Auditing Committee reported the books of the National Union correct and in first-class order, and that the total receipts for dues, fees, paper and commissions was \$8,117.01

Balance brought forward from 1912 account 180.40

Total receipts \$8,297.41

Total expense for salaries, organization work, printing and office expense 7,369.87

No debts, and balance in treasury \$ 927.54

Report adopted.

The report of Committee on Managers and Auditors was full of practical suggestions and is on file and will be printed later. Report was adopted and committee discharged.

The visit to the Armour Packing Plant was enjoyed by all the delegates. The large group picture taken in front of the Carnegie Library shows every delegate in the convention.

The information and education obtained in this annual meeting and the courage and inspiration received by every delegate, more than doubly repaid us for all expense and sacrifice in holding the National Convention.

C. O. DRAYTON, President.

R. ROMER, Vice-President.

INEZ BLACET, Secretary.

A HARD DAY'S WORK.

Editor RURAL WORLD: "We worked hard today," has been said by many an honest plow-handle farmer as well as other honest sons of toil. We worked—but why did we work? To make a living, and I wish to say the man who works honestly and intelligently has a right to a living, and the best of living.

It is not right for us to work hard and exchange our produce to a long line of middlemen for only one-third what the consumer is paying. We cannot do justice to ourselves or the consumer by so doing.

No true Equity worker can be a bit backward in downing the whole line of

middlemen. Middlemen's interests are not in sympathy with either producer or consumer.

A middleman is nothing more or nothing less than one who buys cheap and sells high. The better he does this the better he is as middleman.

Down with the middlemen. We want Equity managers, men selected by the producer to be the producers' servants.

If we cater to middlemen we are their servants.

"Direct from producer to consumer," is the only moral way you can say it.

We thank God for Equity's plan.

V. I. WIRT.

SOME THINGS I HAVE SEEN.

Editor RURAL WORLD: In going from one locality to another and being of an inquisitive nature, I have seen things with the eye of a farmer. I have seen the producer selling corn in Northern Indiana for 50 cents per bushel of 68 pounds. I have seen the consumer farmers within 200 miles paying 80 cents per bushel; freight about 9 cents per bushel—a difference of 21 cents. Now if we had our elevators at this end of the line and our neighbors were equipped with financial standing, and elevators, both incorporated, we could split profits with each other and have a neat little sum of \$150 per car to divide, and this can be done if farmers will organize on the Equity Union plan, not only in the corn deal, but with every other product from the farm.

I have seen women on the farm milking cows; I have seen boys and girls these cold winter mornings delivering this to a capitalistic creamery; I have seen the man who owns the creamery lounging in a nice warm room, he, his wife and family enjoying all the luxuries that heart could wish, and they have not produced one dollar's worth of milk nor ever milked a cow in their natural life. This is the kind of co-operation we have where we have not had organization to precede civilization. Don't forget that organization always precedes civilization and intelligence, co-operation of the many for the benefit of the few.

I have seen untold suffering among the consumers of farm produce, caused from high prices, and the middle man rolling in luxury with plenty and to spare, and he just took it away from the one who made it. Is he generous, this organized middle man? Yes, his generosity knows no bounds, and who could not be generous with another's wealth? Charity, yes, he is bubbling over with charity, but he is only giving back a part of what his conscience will not permit him to keep of the fruits of labor's toil.

The type of modern growth is the great city. Here are to be found the greatest wealth and the deepest poverty. In all the great American cities there is today clearly defined a ruling class as in the most aristocratic countries of the world. Its members carry words in their pockets, make up the slates for nominating conventions, distribute offices, as they begun together, and though they toil not, neither do they spin, wear the best of raiment and spend money lavishly. This is the type of manhood that controls the farming industry. Are we wise? Your power lies within you, not in others.

Can we farmers expect clean business principles unless we have clean men at the head of business? Can we have clean men, when we offer, through this system a premium on dishonest methods when we make it easier for the taker of wealth than we do for the makers? Go into one of our towns and say a word against unjust treatment if you dare, and see

how quick the organized middle men will call you down and say that you are a groucher and a knocker, then fix it so that you cannot get justice until you repent in sack cloth and ashes; it is this fear of the organized middle men that prevents the farmers from standing up for their rights. I have had it said to me many times that we would not dare to kick about an injustice, or organize for protection for fear of a boycott and the middleman would not buy our produce. It is fear of this modern Shylock that keeps the farmer from organizing.

That to the height of this great argument I may assent eternal Providence and justify the ways of God to men. As I have said, if a man steal enough he may be sure that his punishment will practically amount to but the loss of a part of the proceeds of his theft. And if he steals enough to get off with a fortune he will be greeted by his acquaintances as a Viking might have been greeted after a successful cruise, even though he robbed those who trusted him, even though he robbed the widow and the fatherless, he has only to get enough and he may safely flaunt his wealth in the eyes of day.

I saw a community of honest farmers attempt to organize on the plans of the Farmers' Equity Union. I saw them fall victims to the powers of this modern Shylock, who wanted just one more pound of flesh from nearest the heart of each of his victims. And when his bluff failed he took the laws of our land in his own hand and is yet a free man. If this is justice then I want no more, and I ask in the name of this great commonwealth what have we prisoners for?

T. L. LINE.

MEETING OF ALLEN COUNTY UNION.

Editor RURAL WORLD: The federated locals of the Farmers' Equity Union of Allen County will meet at the assembly room in the court house the last Saturday of each month. All members and officers should attend these meetings until we have completed our arrangements in regard to contracting for our implement supplies at our various exchanges. On the last Saturday of January we will have with us a sales agent from one of the leading manufactories who will explain fully the position they occupy with the F. E. U. Now, let every member who is interested in buying good farm machinery at a price that is just come and hear this gentleman. It will be worth your while, especially the farmer who has joined the F. E. U., and then set down and is waiting to see it go. Come and rub up against the Waller farmer, and he will show you how to run this new industrial machine. He has enthusiasm to spare you. He organized to do business and is doing it. He sees it going and will show you how it looks in motion. Remember at 1:30 p. m. in assembly room.

A MEMBER.

WHO CAN BEAT IT?

W. G. Waters, of Washington township, in town Saturday, added another record for Brown County stock. He had butchered one of a litter of shoats exhibited at the Georgetown fair in October, which weighed 360 pounds. It was at time of butchering seven months and 17 days old—Georgetown, Ohio, News-Democrat, Jan. 8.

This hog at 347 days weighed an excess of 122 pounds over the "pound a day for every day of its life" that is the aim of every hog man. "Billy" Waters is a breeder of registered hogs, and a good one, too, but in this case seems to have made a record.

C. D. LYON.

ODD ITEMS LONG AND SHORT.

C. D. Lyon.

Three big meetings at our county seat January 3. A school meeting, a game protection meeting and a civil service examination for the purpose of finding competent men for land appraisers for 1914. In addition to this the loose leaf tobacco warehouse has 85,000 pounds of tobacco on the floor to be disposed of at auction by or before noon. We are great people for big meetings, and we do love to go somewhere to listen to speeches.

I can sit right here at home and tell what will be done at the school and game protection meetings, and the other is clear out of my line. At the school meeting half a dozen men who have no children of school age will paw the air, butcher the United States language, and tell what improvements are needed in our school system, with the sole idea that they will be chosen leaders in any and all new systems to be adopted.

A few town men who like to hunt will dominate the game protection meeting, with the object in view that they will be able to find plenty of game when they go into the fields. Our law prohibits the killing of quail for five years, and only permits a fifteen days' season on rabbits, so it is desired to extend the limit to forty-five days, and as there are a score of bird dogs in town, the tender stomachs of a few town chaps may get a few quail in spite of game laws.

I might have attended one of these meetings had it not been for the sleety rain that is falling, but as it is, I won't punish old George by making him drag the buggy over the icy roads.

How easy it would be to settle all these questions if farmers would only make a close organization. The school problem, as it concerns the country, is so different from the one that concerns the towns, that country people alone should settle it, and the matter of game preservation is one that the men who grow the crops to feed the game should attend to.

We have had a light snow for two weeks and a minimum temperature of 26 degrees, so there is "green grass under the snow," and wheat is making considerable growth.

It certainly has been an easy winter on feed so far, but the old saying, "On Candlemas day have half your grain and half your hay," may prove worth remembering this year. I have seen warm weather prevail up to February 1 and then a month of real winter.

Corn is dropping in price, and I hear grain men say that they are surprised at the amount of old—1912—corn on the market. Looking at a car load of new corn at our station last week I was surprised at the good quality of it, as I had not been in any section showing good corn, but I was told that this was from north central Ohio where a good crop was grown and most of the hogs dead with cholera.

NOTES FROM GLEN RAVEN.

Editor RURAL WORLD: So far we have had but little cold weather, none cold enough to frost the combs of the Leghorns roosting in a cold barn. I do not think the ground has been frozen more than an inch deep, and would plow well now, January 12th. We have stable manure to haul and spread on garden and meadow, wood to get for our summer's use, eight hogs to butcher, and our orchards to prune. Our hogs are young and we could not get our corn until about December 1st, so it made our killing late.

Most of our neighbors have butchered. Some were afraid of cholera, others had their hogs fat enough.

Then high-priced corn cut a figure with some.

We feed and sleep our hogs on a cement floor. They go out in a wood lot during the day, where there is plenty of water. We cover the cement floor with salted charcoal and coal cinders. Hogs seem to clean up everything there. We do not fear disease.

I want to ask Bro. Lyon if he was going to fertilize a bed for stock peas between rows of bearing cherry trees to benefit both crops. What would be the use? I can mix it on the cement floor.

E. W. GEER.

KENTUCKY NOTES.

Editor RURAL WORLD: Today, the last day of 1913, I noticed a peculiar accident that was anything but pleasing. I had just stepped to the window and saw one of our young horses walking toward the stable door, but she came back and was walking in the barn lot on natural ground, but frozen and covered a little with ice and snow. The filly made a move like she wanted to turn around, and probably run and kick, just like horses will when playful. In this act her hind feet went under and the horse fell; fell very hard. She tried to get up, but no, she could not make it. The whole family went to her assistance, turned her over, and in a little she could get up slowly. They got her in the stable, but she soon fell again, and worried around for about two hours, when she expired. There was a nice, young, healthy, happy horse, a little beauty, the pet of all the children, and had been given by me to my eldest daughter when a colt, a little over two years ago, and nearly quick as a wink she is gone. And so it is with us humans. Happy today and perhaps tomorrow—we do not want to guess. Of course this is unfortunate, or so it appears, but as all things happen for the best, who can tell but what worse might have happened through her to the family. I was glad the poor creature did not have to suffer long. Accidents can happen whether we are near or far. We were all at home and several of us saw the whole proceeding, but we could not prevent it. And so I often say why always blame someone when anything goes wrong? There certainly was no one to blame in this case, and in many cases of daily occurrence the happenings are bad enough without making someone miserable by laying blame upon them.

We had a light snow the 26th, and though only an inch or two, we have it nearly all left. The ground was wet before the snow, so the road is not just as nice as it might be for horse travel. The automobiles must have gone to their winter quarters, as we do not see many pass now.

I was at a neighbor's today. They have a nice graphophone. It does seem that nowadays nothing is left to be desired. Here we can sit back in our way out of the way country home and listen to the best band players of our time. The world's best singers are brought amidst our humble homes. It is certainly great. Of course this is not the first I heard, but the first time I heard that particular one. What next may we have on the program?

The 5-cent picture shows will show us more than we want to see; the phones all we care to hear; the autos to give us a spin.

Sweet clover beats them all, though, as it is a miracle worker; takes old, worn-out, washed-out land and builds it up with new life qualities, and that, too, without danger to life. I would rather see the fair green country sweet clover fields than a spinning auto. I can leave the auto out of my bill of fare (personally). Some of our young folks are going to sit up and

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watch the old year die out, and say howdy to the new splendor of another unknown year. Cheer, Joy, Happiness and Prosperity and Peace to all who read these lines.

MRS. J. T. MARDIS.

CONSERVATION.

Editor RURAL WORLD: Not conservation of our forests, water, coal and power, but conservation of our boys and girls from crime and shame and disease and death. Are our boys and girls of less worth to the world of to-morrow than trees and water and coal and power? Of what worth are these without some one to use them?

Conservation of our food stuff: Why should millions of bushels of grain be wasted every year when there are millions of people in the United States that do not get enough to eat to do a day's work.

Conservation of our taxes: Why should millions of dollars be wasted every year in maintaining penitentiaries, insane asylums and poor farms? Conservation of our people from insanity, pauperism and degeneration.

Stop licensing crime: Fining a criminal a few dollars for violating the law, or a few years in the penitentiary, then repeat again and again. A sentence of ten to fifty years in the penitentiary would make the violation of the law too unprofitable to indulge in it.

Educate the people: Call on the legislatures of the several states to appropriate money to be used to print all of the criminal laws of the state on a placard, and then send them forth to every public place throughout the state, to be tacked up in a conspicuous place; but especially to the school rooms, and require the teachers to teach the law, and the shame of being a criminal and a pauper.

The present system of executing the law, or not executing it at all, is a relic of the dark ages.

Stop violating the law: What hope is there for a proper execution of the law when the criminal comes before a criminal court and a criminal jury for sentence?

It is the violation of the law that

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makes a man a criminal and not the conviction, as is held by a multitude of people.

Conservation and Education.

G. H. OWEN.

The fifth annual convention of the Texas Industrial Congress, which was postponed from December 13, on account of the serious illness of Col. Henry Exall, the late president, will be held during the National Corn Exposition at Fair Park, in Dallas, on February 21. The prizes offered by the Congress for the largest net profit per acre in the several lines of farming, aggregating \$10,000 in gold, will be distributed at the convention.

